

## **Appendix F**

### **I/I Pilot Project Model Calibration**

**Description:**

This appendix includes a memorandum describing the confidence in modeling reduction results, hydrographs of modeling results of the pilot and control basins, and linear regressions used for establishing peak 20-year flows.

**Reference Chapter:**

Chapter 8 – Rehabilitation Effectiveness

**Author:**

Paul Glenn, P.E., King County



## **MEMORANDUM**

To: Earth Tech Team

From: Bob Swarner and Paul Glenn

Date: August 25, 2004

### **Reason: Confidence in Reduction Results**

Hydrologic modeling in general has uncertainties associated with it. The propagation of uncertainties in rainfall and flow data is not addressed in this memorandum; however, a qualitative confidence in the final reduction results is provided. Confidence in the reduction results is provided as a guideline for using the results to determine the effectiveness of different types of rehabilitation work.

The Modeling Confidence Table 1-1 provides a qualitative assessment of the rehabilitation effectiveness.

Final model calibrations were rated as excellent, good, fair, and poor. An excellent rating was for a model that fit all flow data. A good rating was for a model that fit most of the rainfall events and the inter-event flow data. A fair rating was for a model that generally fit the flow data, but did not fit some of the events. A poor rating was for a model that did not fit the flow data.

The confidence in 20-year peak results for pre- and post-rehabilitation was determined: (a) using the largest measured event return period used in model calibration, (b) the total number of CALAMAR events used for calibration that were equal to or larger than an accumulation of 0.5 inches, and (c) the quality of the final calibration with the following criteria:

- Excellent - the model had an excellent fit to the flow data, at least 5 events were used for calibration, and the largest event was a 20-year event.
- Good - the model had a good or excellent fit to the flow data, at least 5 events were used for calibration, and the largest event was near a 1-year event.
- Fair - the model was calibrated to less than 5 events, had a fair calibration, or the largest event was much less than a 1-year event.
- Poor - the model had a poor calibration or was calibrated to only one event.

The final rating for confidence in 20-year peak reduction results was based on the pre- and post-rehabilitation 20-year peak result confidence and comparison of the modeled reduction with the reduction estimated from measured flows. Final confidences were determined with this criteria: if the modeled 20-year I/I reduction was similar to the I/I reduction estimated from measured flows, the rating was determined to be the highest of the pre- or post-rehabilitation confidence in 20-year results ratings. Otherwise, the rating was taken as the lowest rating between the pre- and post-rehabilitation confidence in 20-year results ratings.



**MODELING CONFIDENCE TABLE 1-1**

| Name             | Pilot/Mini Basin | Major Basin | Sub-basins         | PRE-REHABILITATION                        |   |                            |  | POST-REHABILITATION                       |   |                            |  | 20-year Modeling I/I Reduction Results | I/I Reduction Estimated from Measured Flow | Confidence in 20-Year Peak Reduction Results (4) |
|------------------|------------------|-------------|--------------------|---|---|----------------------------|--|---|---|----------------------------|--|--|--|--|
|                  |                  |             |                    | Largest Measured Event Return Period (yr) | Number of CALAMAR Events Used for Calibration (1) | Quality of Calibration (2) | Confidence in 20-Year Peak Results (3) | Largest Measured Event Return Period (yr) | Number of CALAMAR Events Used for Calibration (1) | Quality of Calibration (2) | Confidence in 20-Year Peak Results (3) |  |  |  |
| Auburn           | ABN002           | M_ABN018    | Pilot A<br>Pilot B | 0.9<br>0.5                                | 5<br>5  | Excellent<br>Fair          | Good<br>Fair                           |   |   |                            |  | NAR<br>NAR                             | NA<br>NA                                   | Good Fair  |
| Kent             | KNT014           | M_KNT031    | Pilot              | 1.5                                       | 7   | Excellent                  | Good                                   | 0.06 -0.48                                | 1   | Fair                       | Poor                                   | 71-81                                  | 60   | Good   |
| Val Vue          | VAL019           | M_VAL020    | Pilot              | 15.5                                      | 10  | Good                       | Good                                   |   |   |                            |  | NAR                                    | NA   | Good   |
| Skyway           | BLS002           | M_BLS009    | Pilot              | 0.7 -0.9                                  | 7   | Good                       | Good                                   | 5.9 - 8.6                                 | 7   | Fair                       | Fair                                   | 86                                     | 77   | Good   |
| Coal Creek       | CCR002           | M_COAL007   | Pilot              | 2.1                                       | 10  | Good                       | Good                                   |   |   |                            |  | NAR                                    | 39   | Good   |
| Mercer           | MRC012           | M_ENATA01A  | Pilot              | 0.9                                       | 2   | Excellent                  | Fair                                   | 1.9                                       | 5   | Good                       | Good                                   | 37                                     | 44   | Good   |
| Kirkland         | KRK011           | M_KRK008    | Pilot              | 1.0                                       | 6   | Fair                       | Fair                                   | 2.3                                       | 5   | Fair                       | Fair                                   | 28                                     | 28   | Fair   |
| North Shore      | NUD038           | M_KENMR054  | Pilot              | 1.5                                       | 10  | Good                       | Good                                   | 0.9                                       | 1   | Excellent                  | Fair                                   | 23                                     | 82   | Fair   |
| Brier            | BR004            | M_LYON021   | Pilot              | 0.4                                       | 5   | Excellent                  | Good                                   | 1.2                                       | 2   | Good                       | Fair                                   | 50                                     | 36   | Good   |
| Lake Forest Park | RON041           | M_KENMR000  | Pilot              | 1.2                                       | 10  | Fair                       | Fair                                   | 0.9                                       | 2   | Excellent                  | Fair                                   | 69                                     | 65   | Fair   |
| Ronald           | RON002           | M_BOECR043  | Pilot              | 1.8                                       | 6   | Good                       | Good                                   | 0.4                                       | 2   | Excellent                  | Fair                                   | 74                                     | 57   | Good   |
| Redmond          | RDM009           | M_NWLKS001  | Pilot A<br>Pilot B | 16<br>0.3                                 | 2<br>2  | Excellent<br>Poor          | Fair<br>Poor                           |   |   |                            |  | NAR<br>NAR                             | NA<br>NA                                   | Fair Poor  |

**Notes:**

(1) - An event is defined as the duration of the CALAMAR rainfall time series. A CALAMAR time series may span multiple days and there may be multiple points to calibrate to for the series. Note also that only accumulations greater than or equal to 0.5 inches are reported.

(2) - Rated as poor, fair, good, and excellent.

Excellent = the model fits all flow data.

Good = the model fits most of the rainfall events and the inter-event flow data.

Fair = the model generally fits the flow data, but does not fit some of the events.

Poor = the model does not fit the flow data.

(3) - Rated as poor, fair, good, and excellent.

Excellent = the model has an excellent fit to the flow data, at least 5 events were used for calibration, and the largest event was a 20-year event.

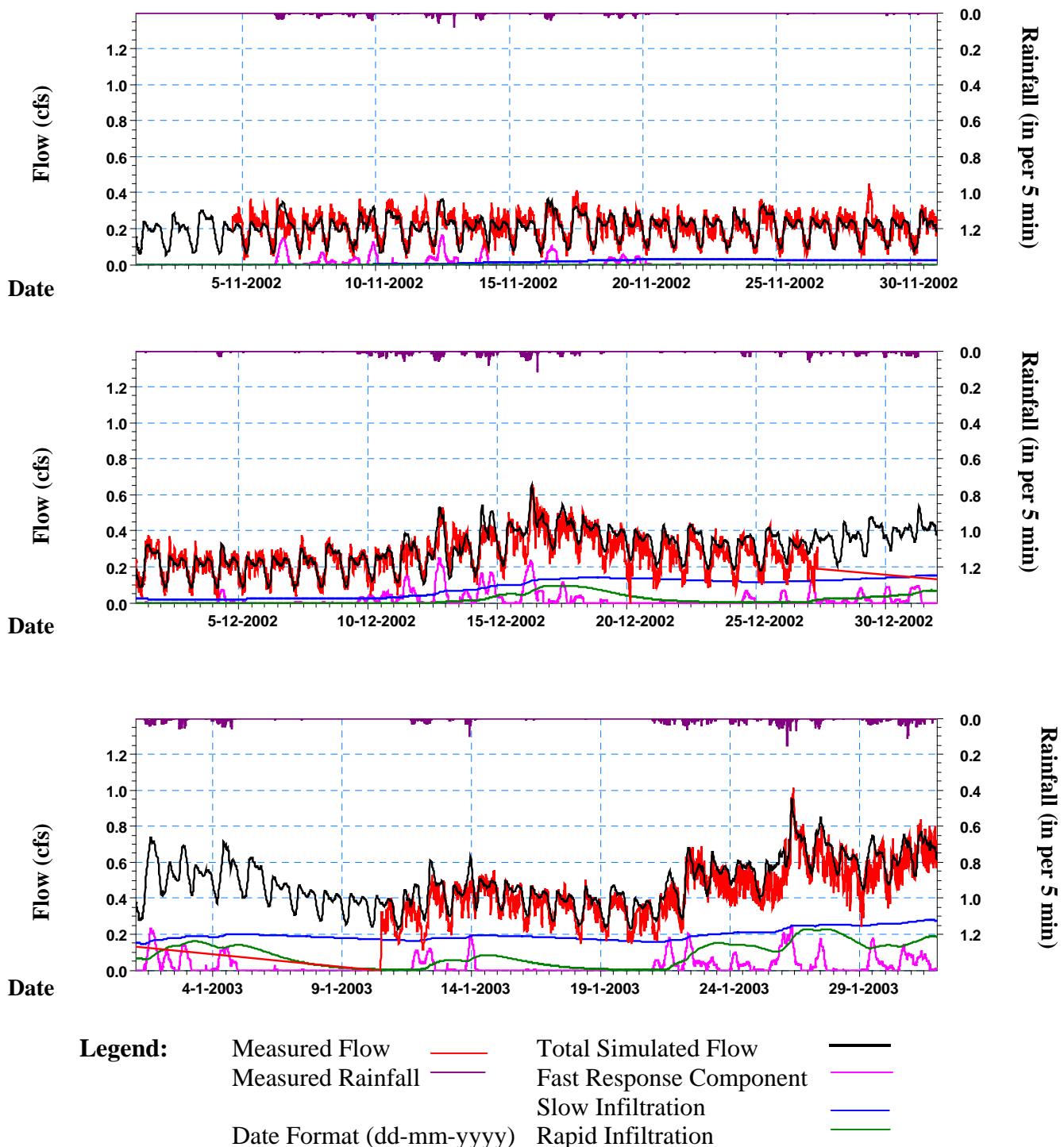
Good =the model has a good or excellent fit to the flow data, at least 5 events were used for calibration, and the largest event was near a 1-year event.

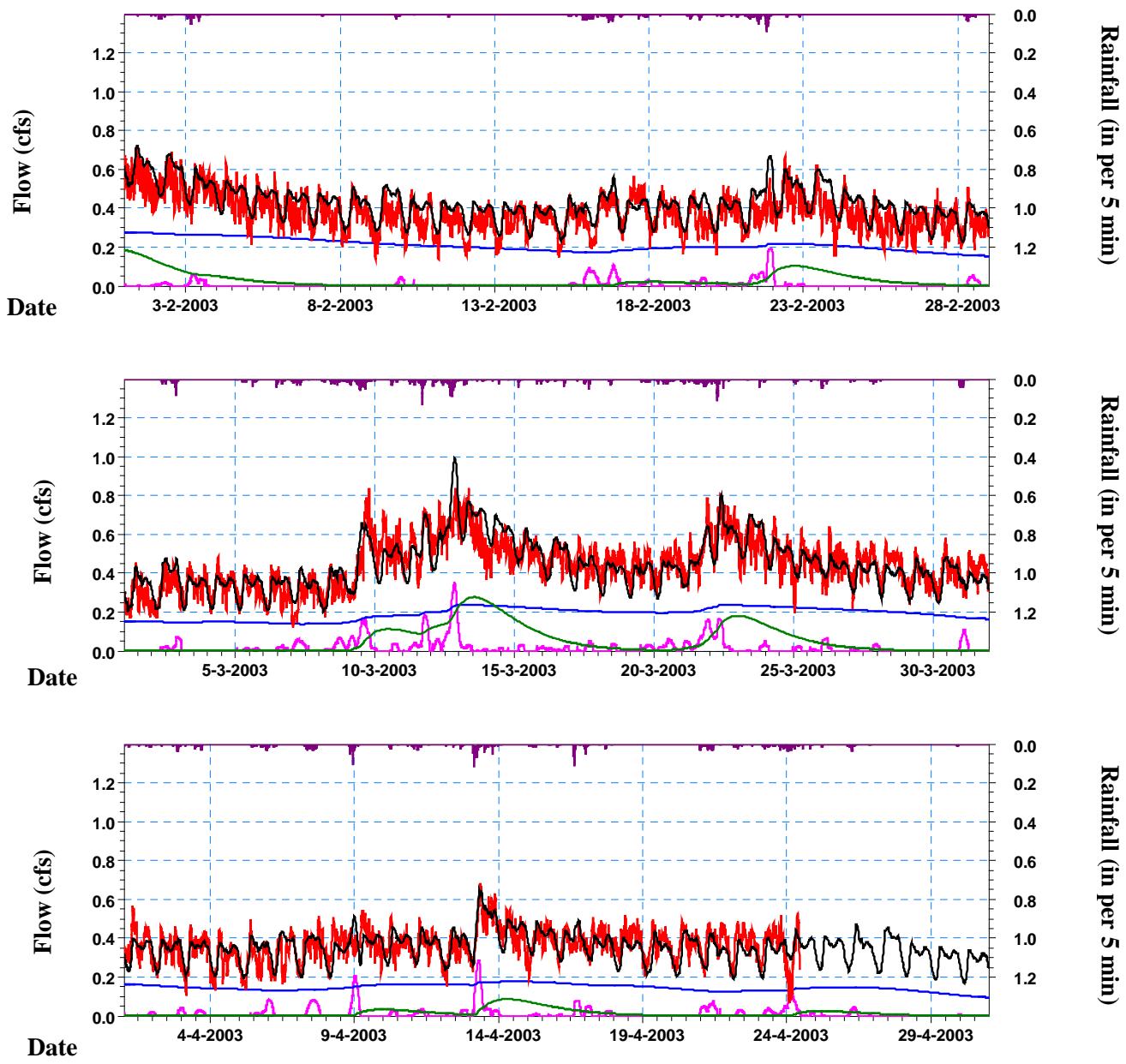
Fair = the model was calibrated to less than 5 events, has a fair calibration, or the largest event was much less than a 1-year event.

Poor = the model has a poor calibration or was calibrated to only one event.

(4) Note that if the modeled 20-year I/I reduction was similar to the I/I reduction estimated from measured flows, the rating was determined to be the highest of the pre or post-rehabilitation confidence in 20-year results ratings. Otherwise, the rating was taken as the lowest rating between the pre and post-rehabilitation confidence in 20-year results ratings.

### Auburn Pilot A Basin (2002-2003 Monitoring Period)





## Legend:

## Measured Flow

## Measured Rainfall

## Date Format (dd-mm-yyyy)

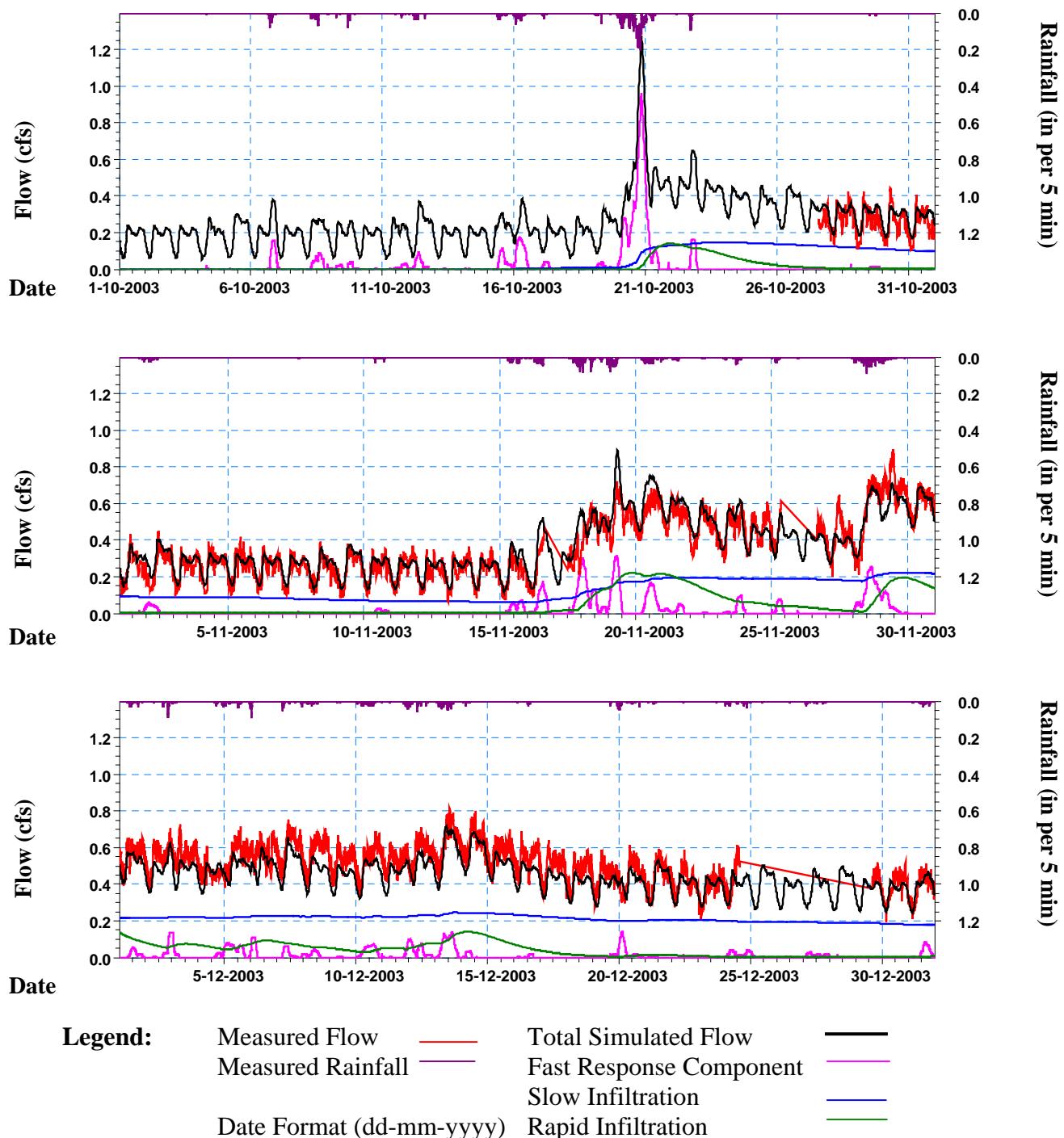
## Total Simulated Flow

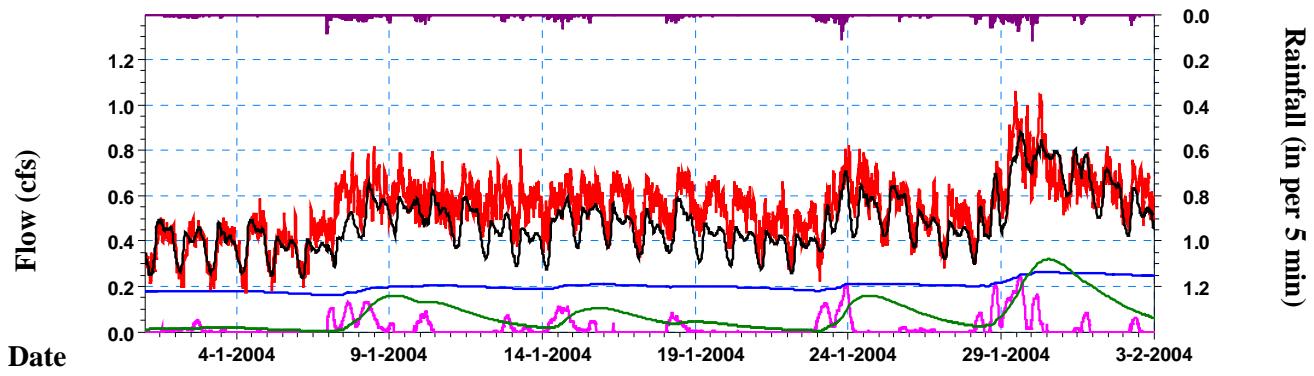
## Fast Response Component

## Slow Infiltration

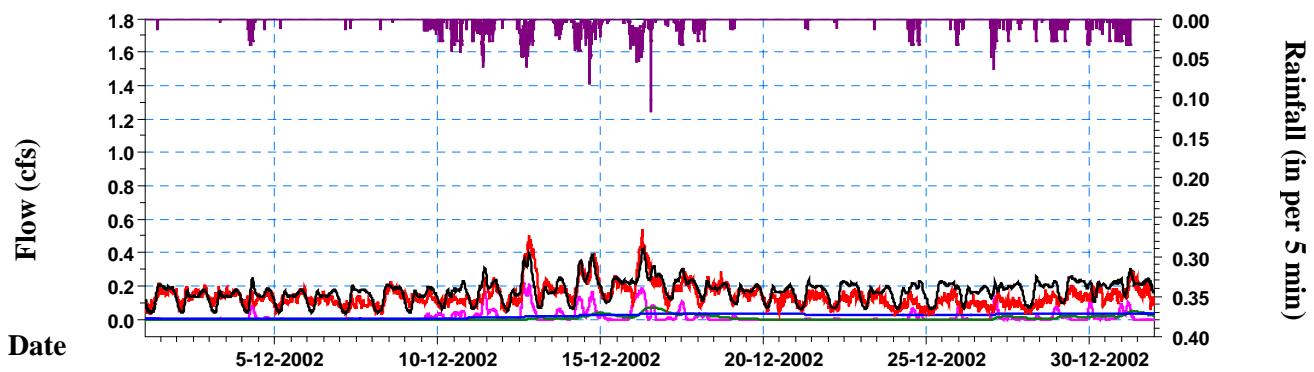
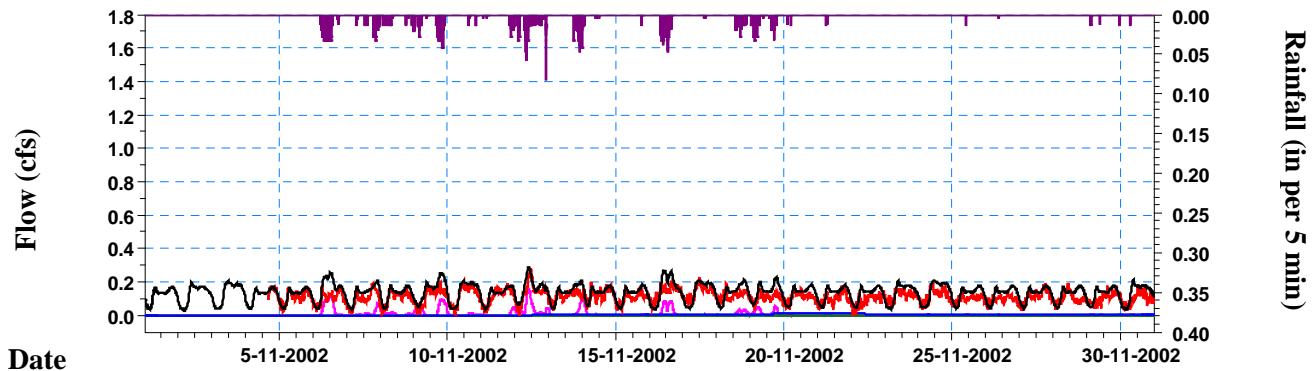
## Rapid Infiltration

### Auburn Pilot A Basin (2003-2004 Monitoring Period)



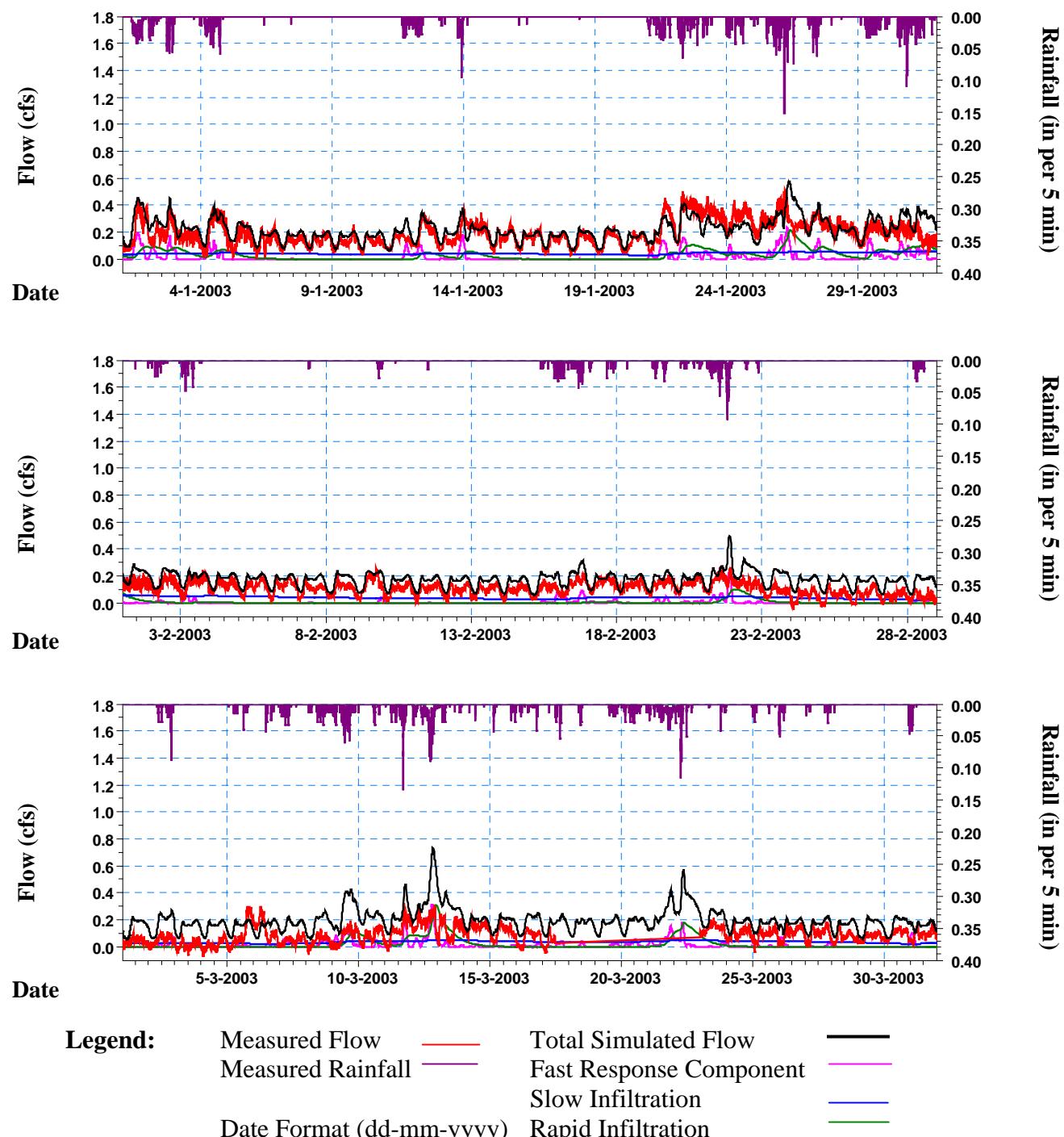


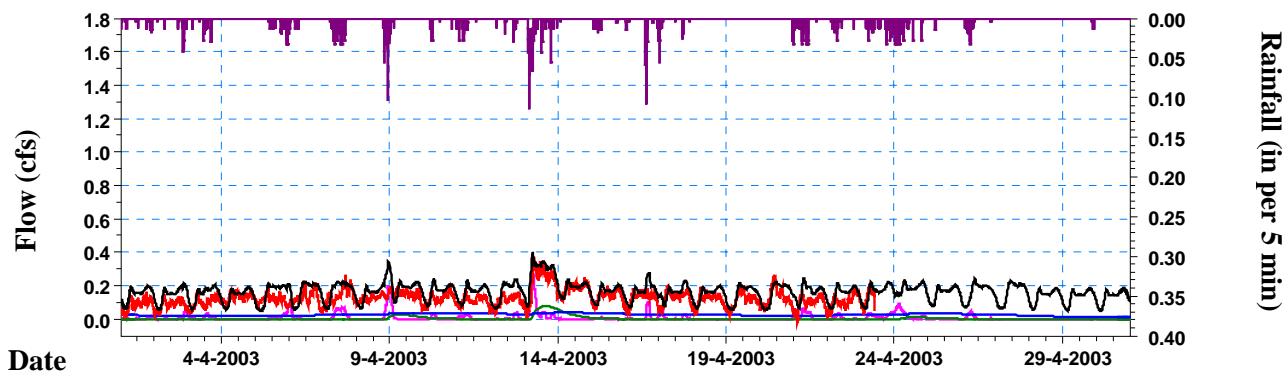
**Auburn Pilot B Basin (2002-2003 Monitoring Period)**



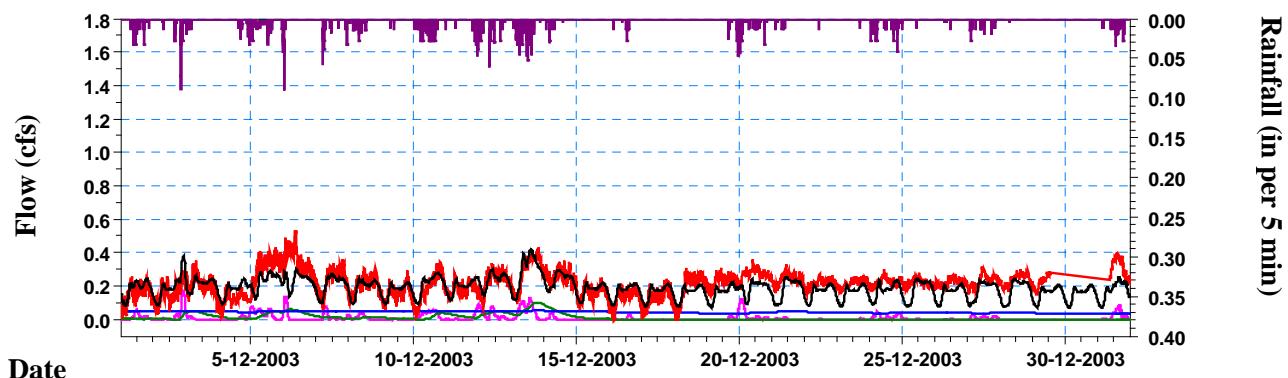
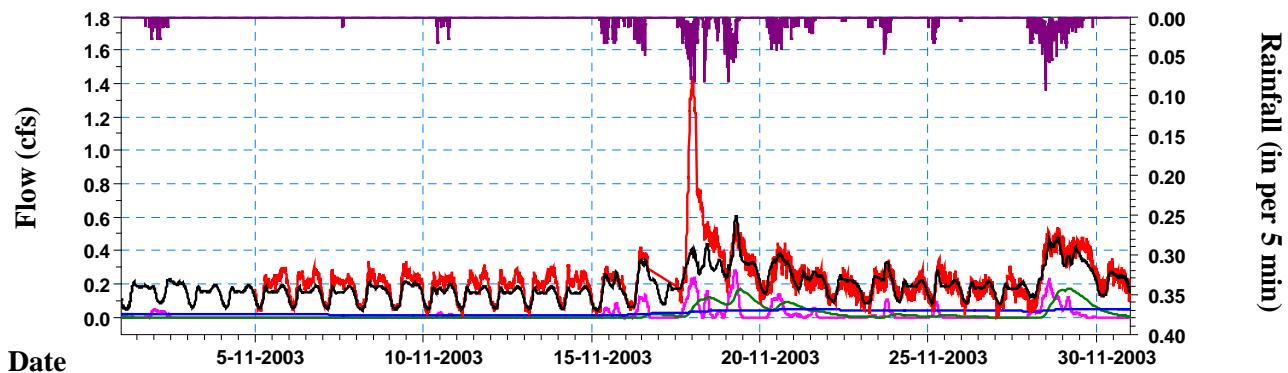
**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

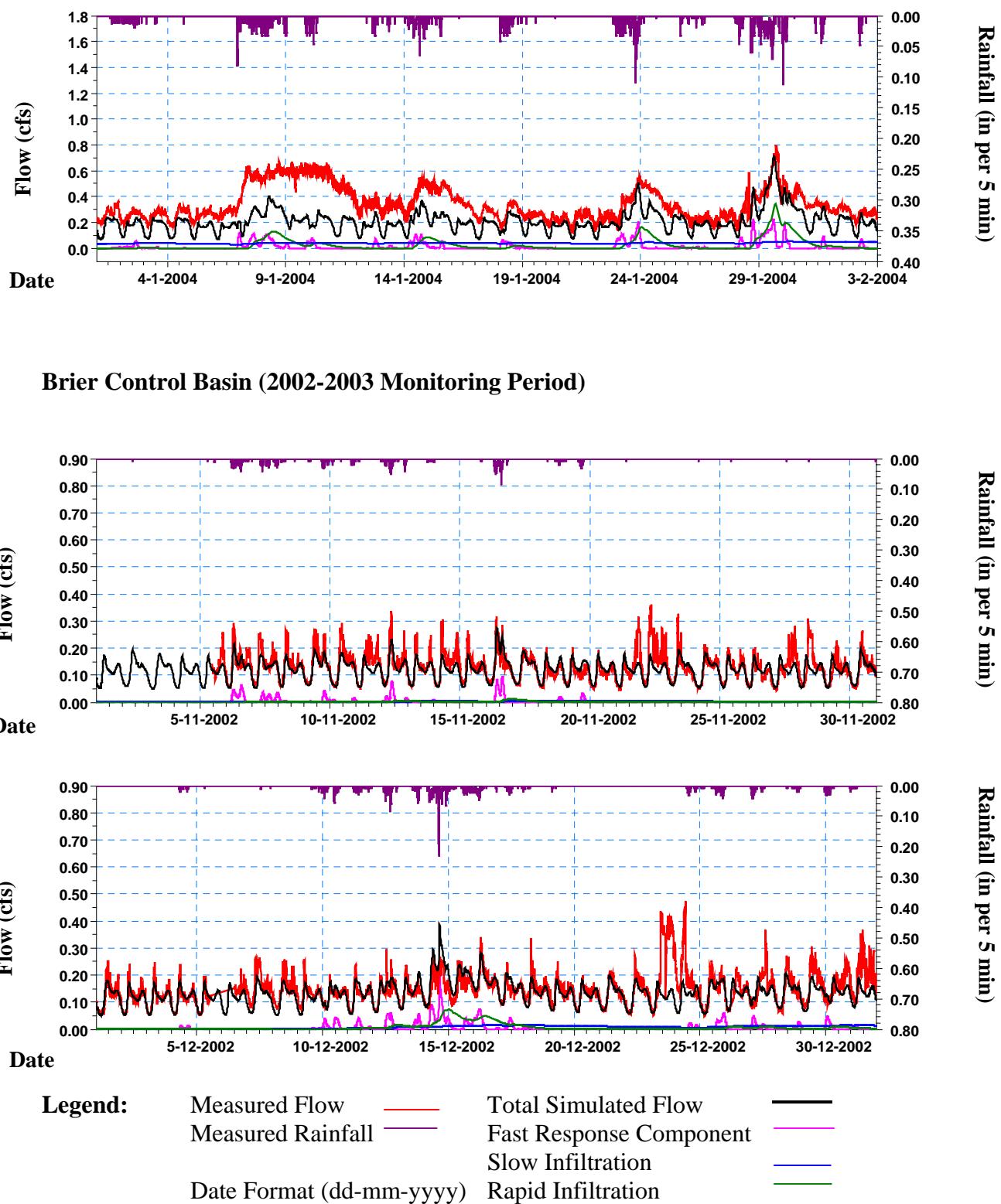


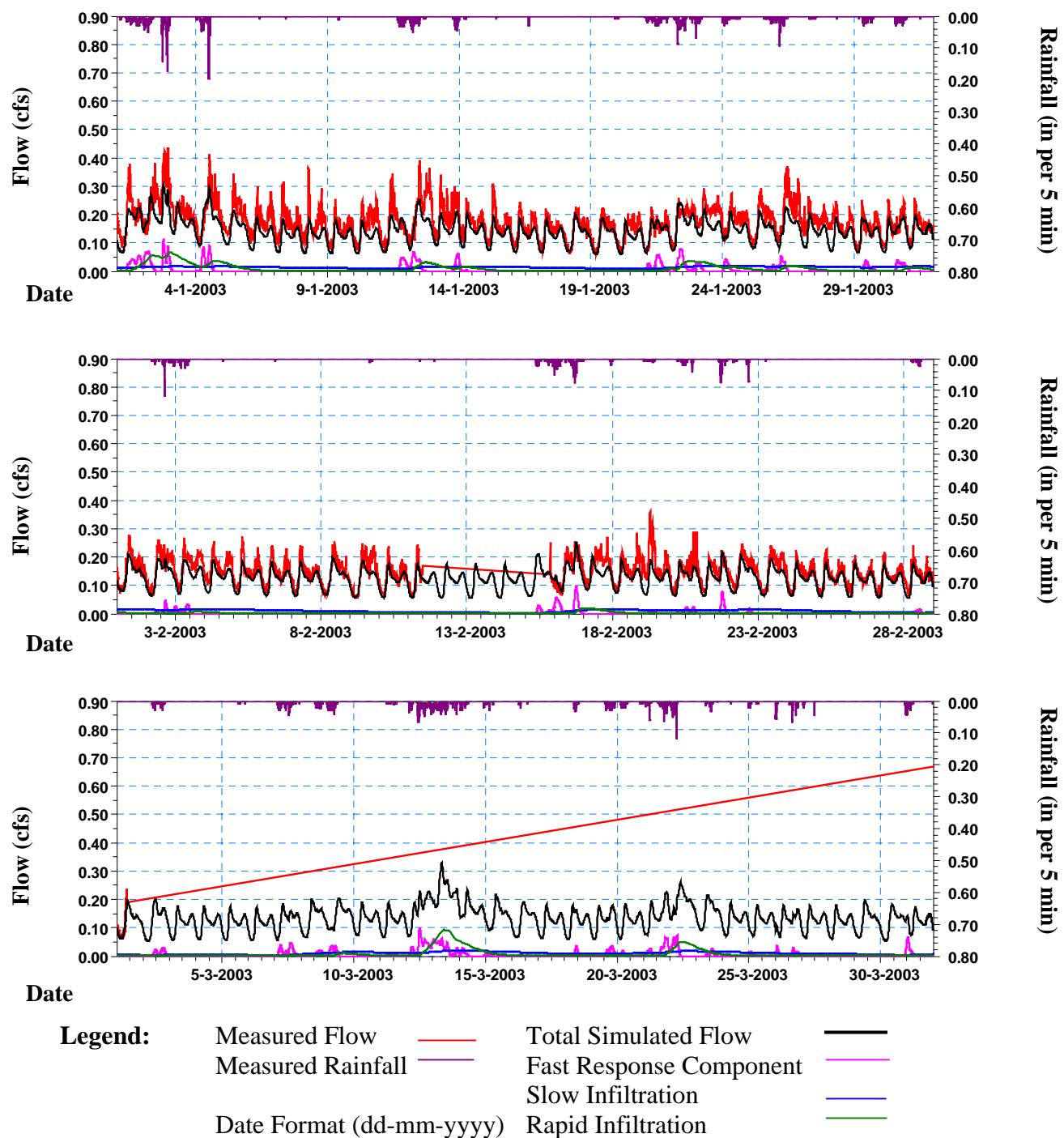


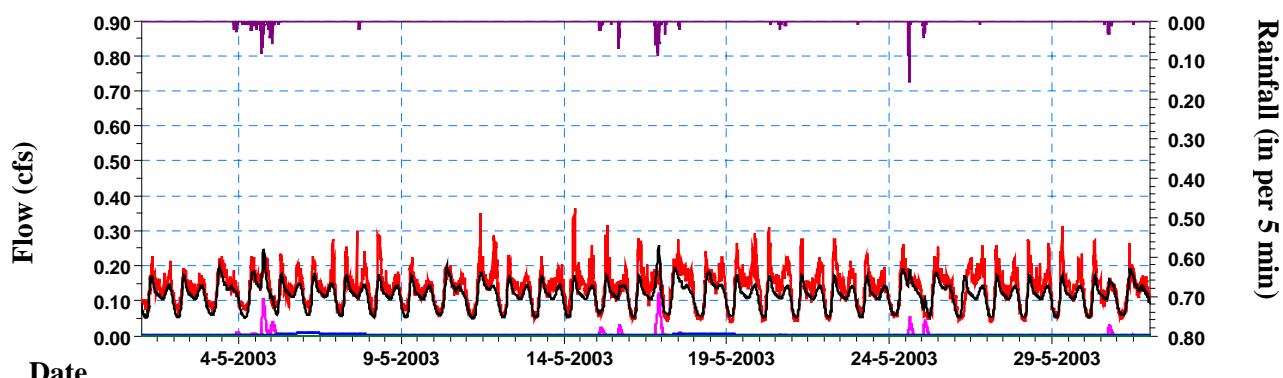
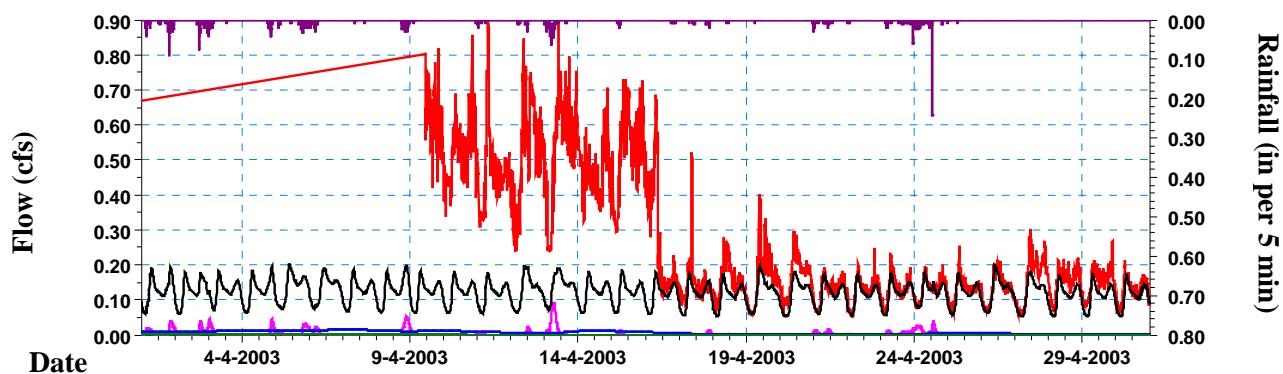
**Auburn Pilot B Basin (2003-2004 Monitoring Period)**



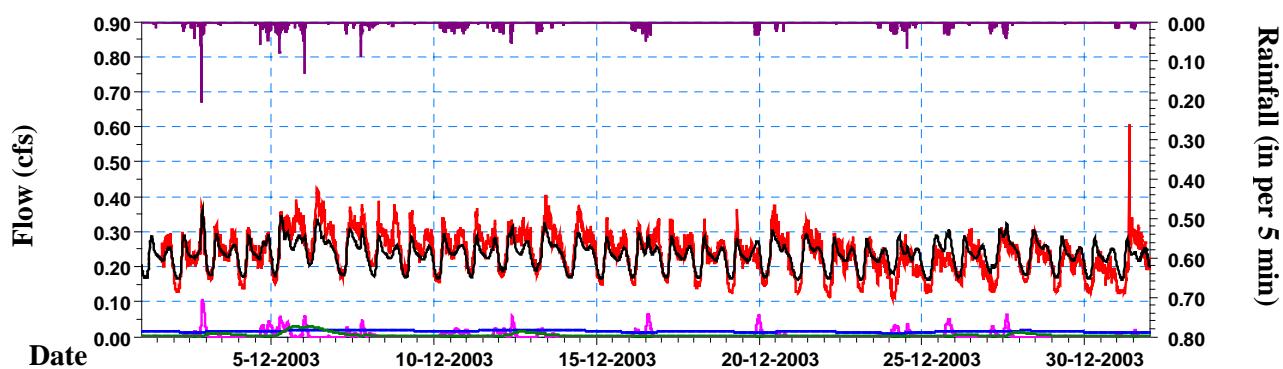
|                |                          |   |                         |   |
|----------------|--------------------------|---|-------------------------|---|
| <b>Legend:</b> | Measured Flow            | — | Total Simulated Flow    | — |
|                | Measured Rainfall        | — | Fast Response Component | — |
|                |                          |   | Slow Infiltration       | — |
|                |                          |   | Rapid Infiltration      | — |
|                | Date Format (dd-mm-yyyy) |   |                         |   |





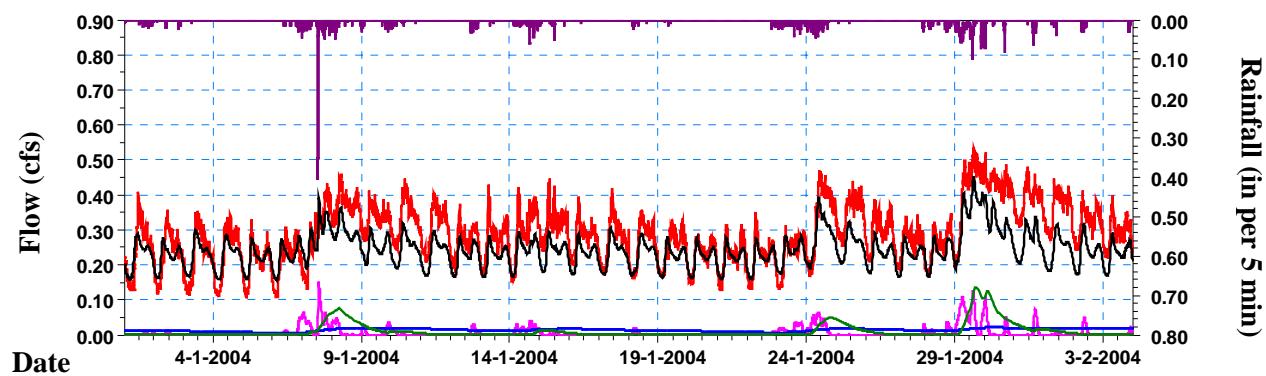


### Brier Control Basin (2003-2004 Monitoring Period)

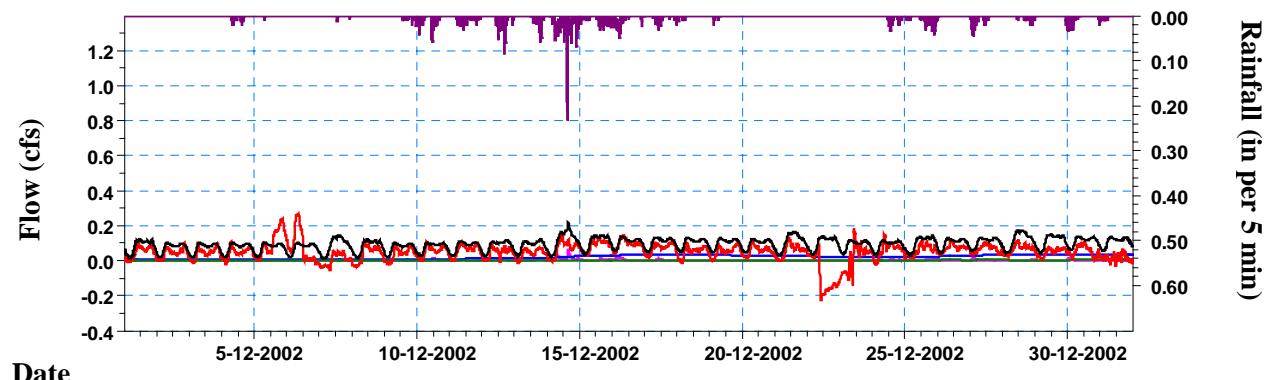
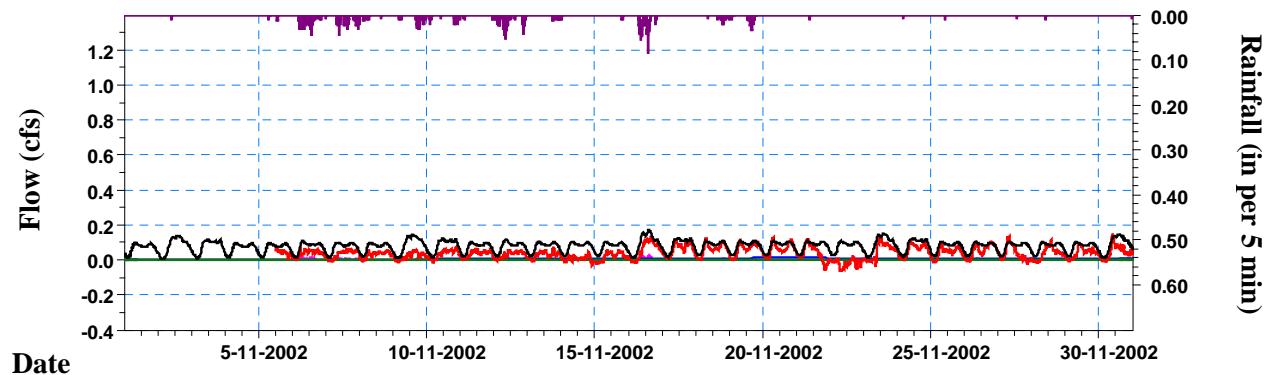


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

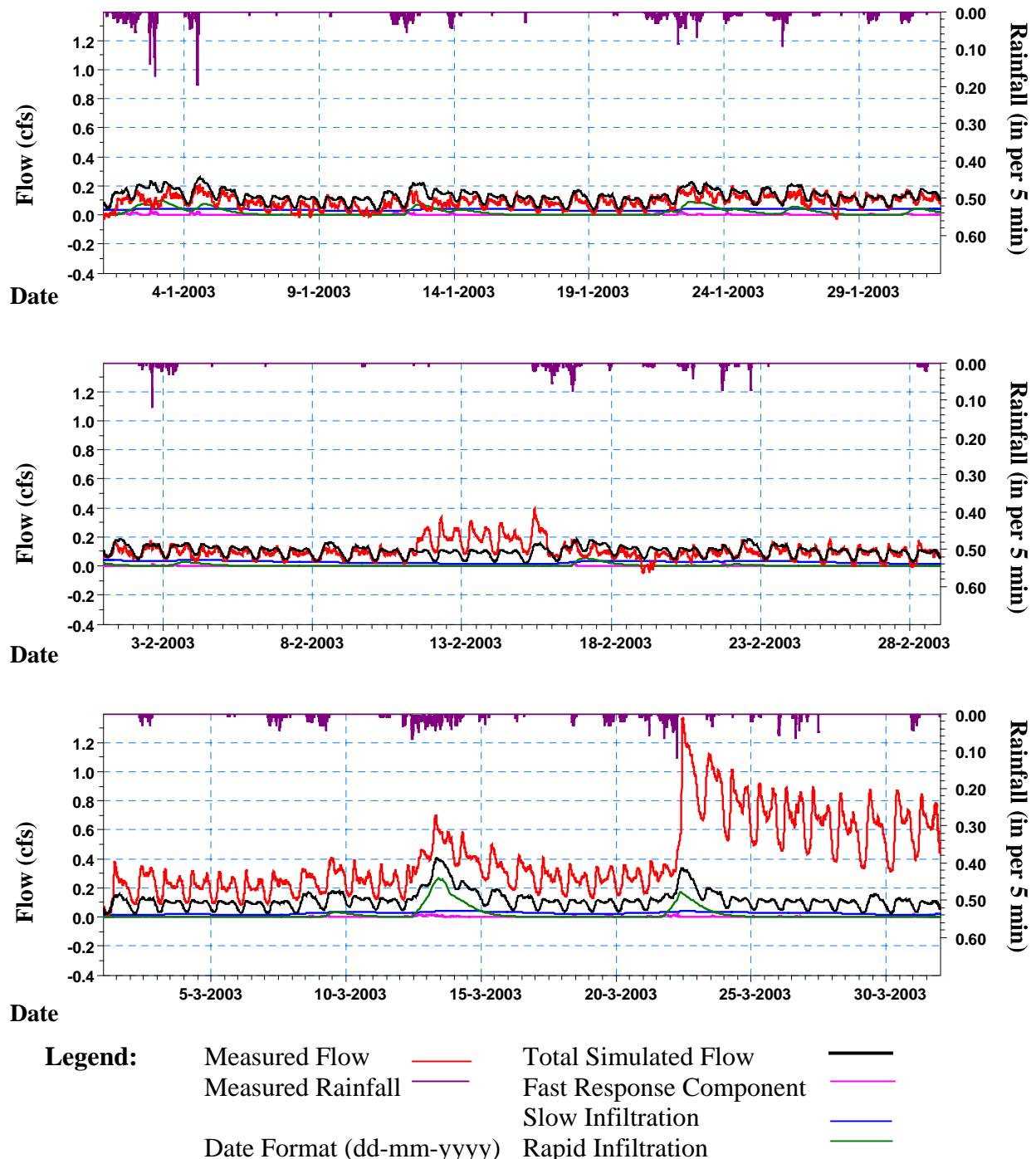


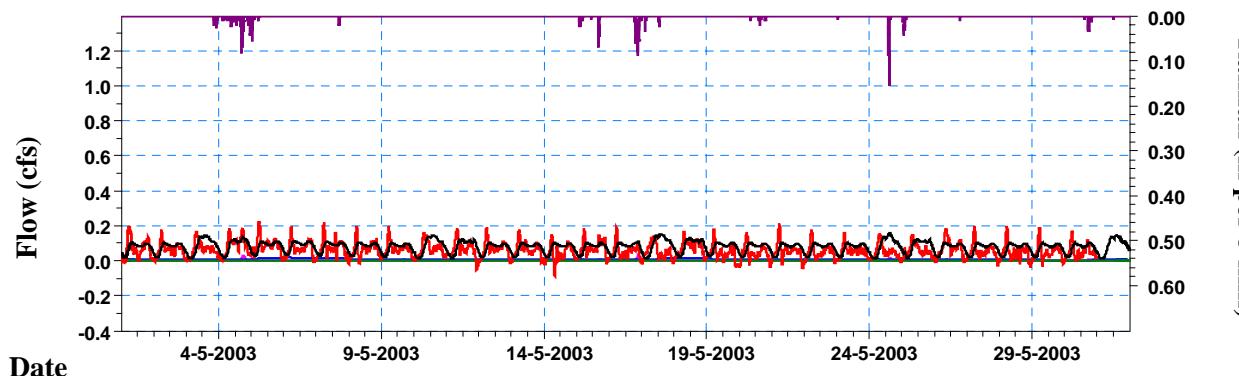
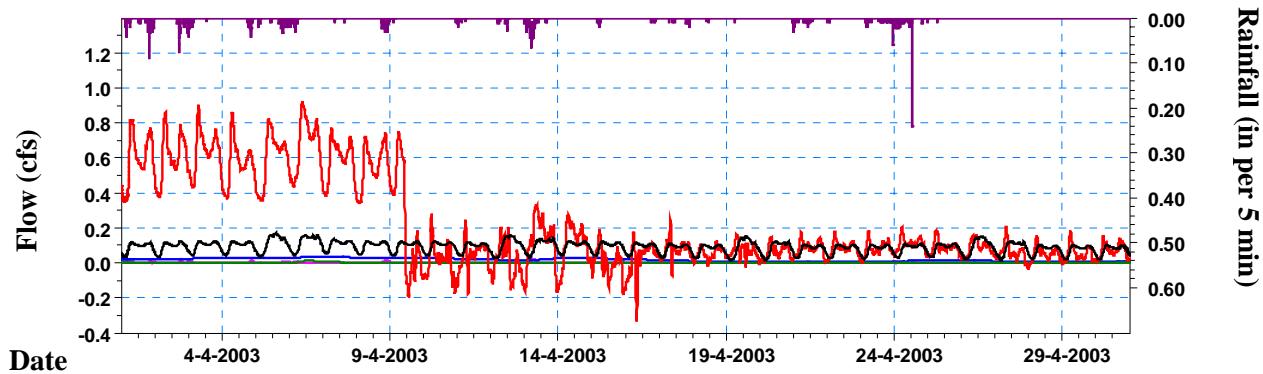
### Brier Pilot Basin (2002-2003 Monitoring Period)



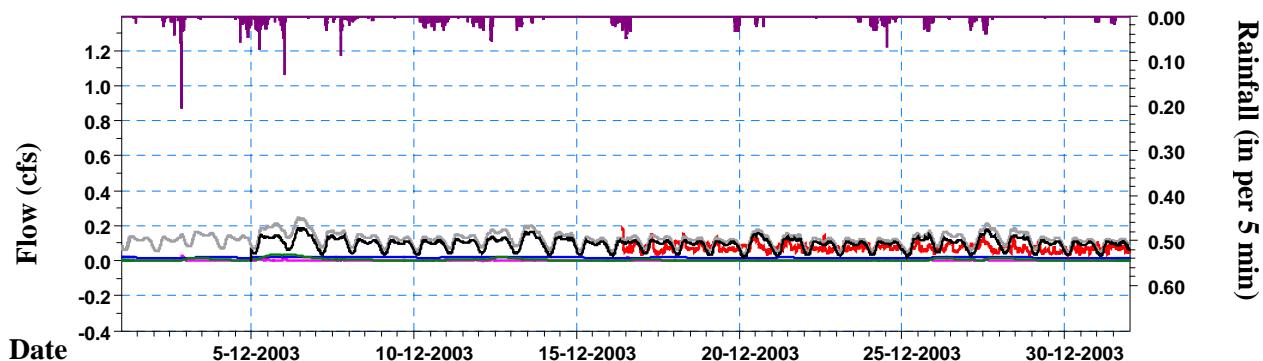
**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |



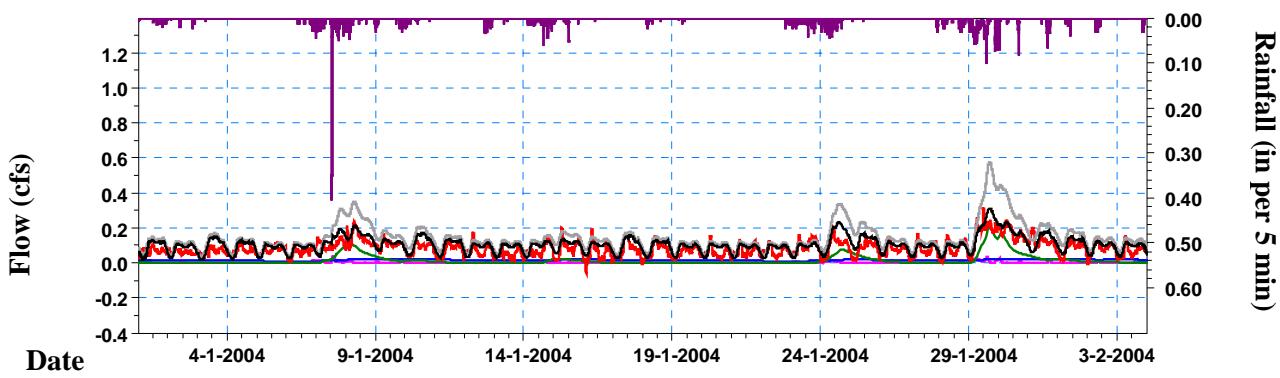


### Brier Pilot Basin (2003-2004 Monitoring Period)

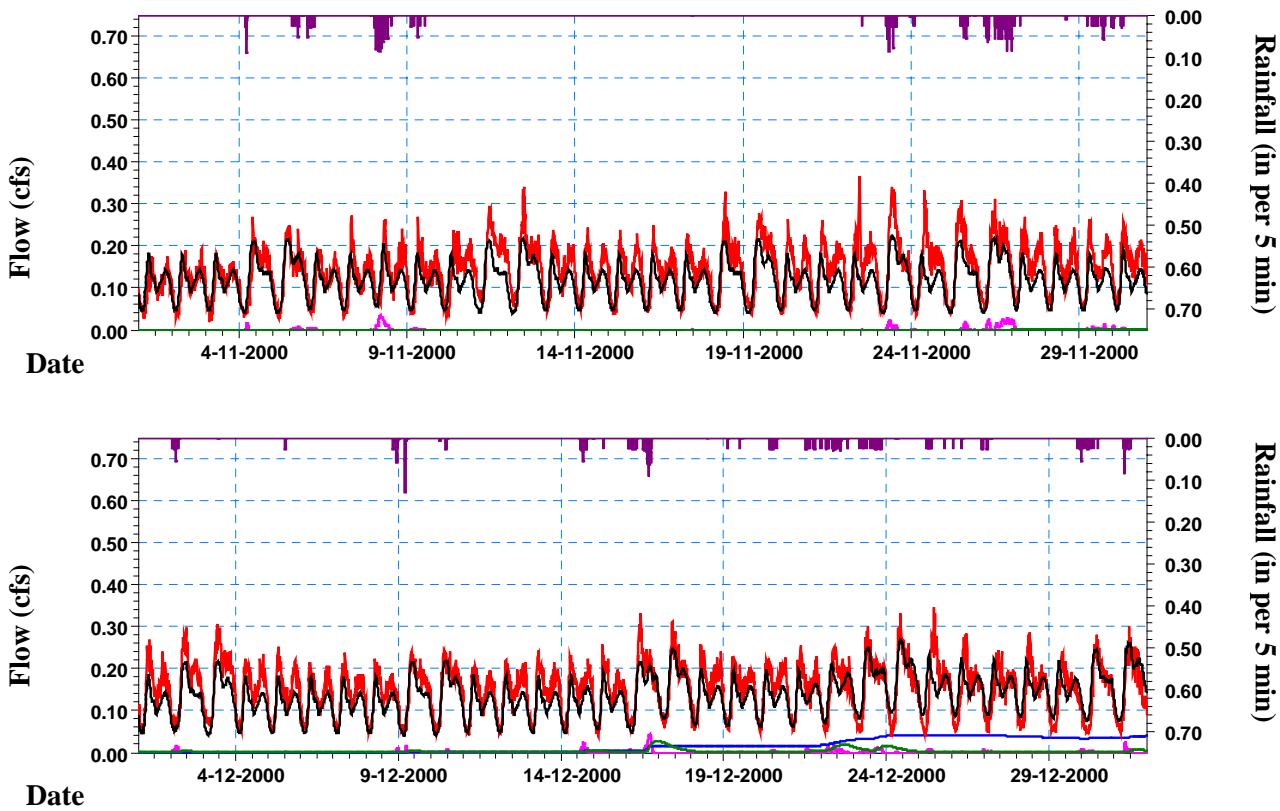


**Legend:**

- Measured Flow ——— (Red)
- Measured Rainfall ——— (Purple)
- Total Simulated Flow ——— (Black)
- Fast Response Component ——— (Magenta)
- Slow Infiltration ——— (Blue)
- Rapid Infiltration ——— (Green)
- Date Format (dd-mm-yyyy) ——— (Grey)
- Pre-rehabilitation Simulated Flow ——— (Grey)

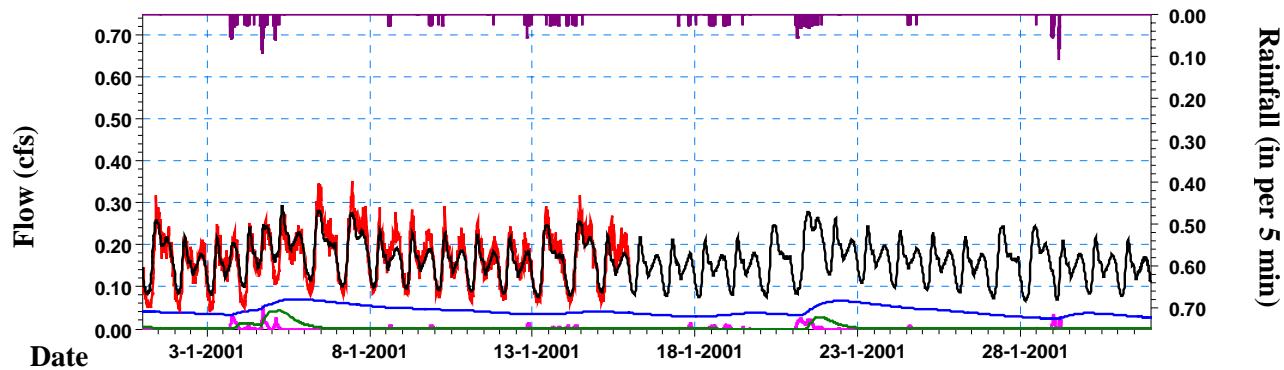


### Coal Creek Control Basin (2000-2001 Monitoring Period)

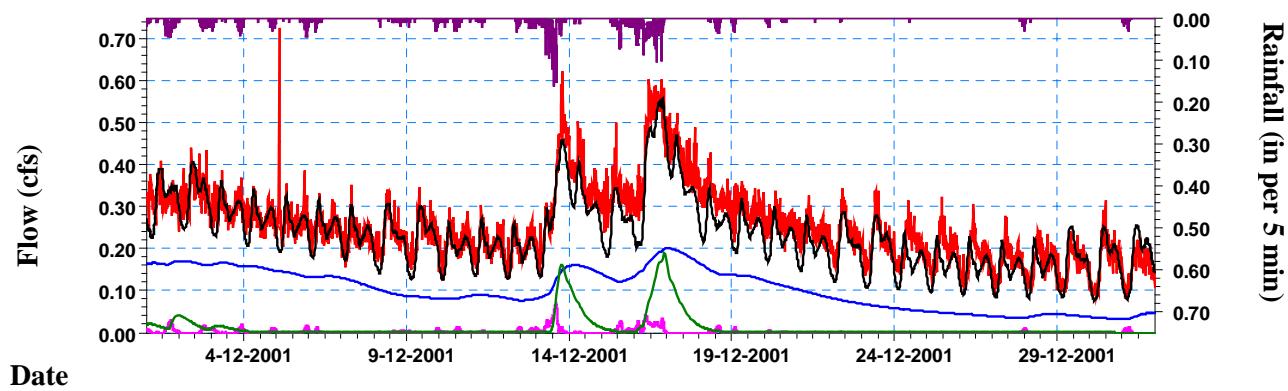
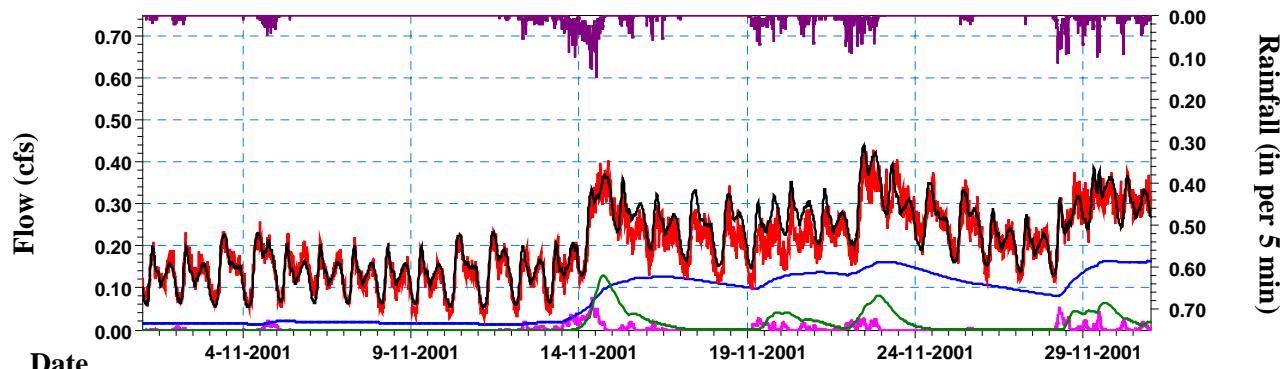


**Legend:**

|                                   |   |                         |   |
|-----------------------------------|---|-------------------------|---|
| Measured Flow                     | — | Total Simulated Flow    | — |
| Measured Rainfall                 | — | Fast Response Component | — |
|                                   |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy)          | — | Rapid Infiltration      | — |
| Pre-rehabilitation Simulated Flow | — |                         | — |

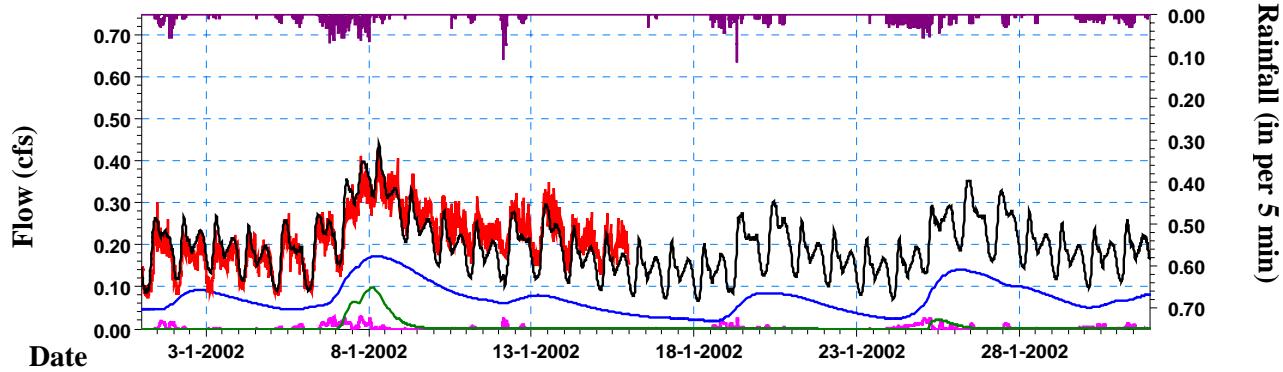


### Coal Creek Control Basin (2001-2002 Monitoring Period)

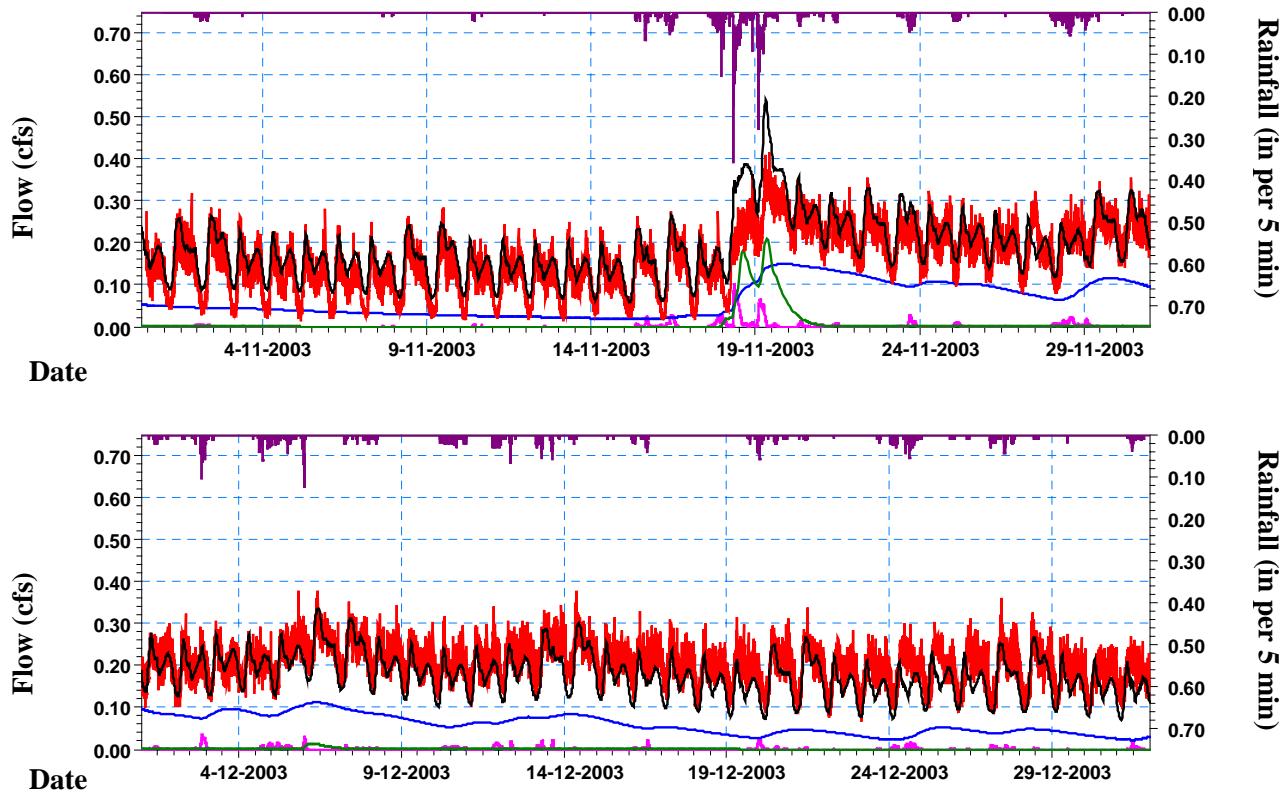


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |



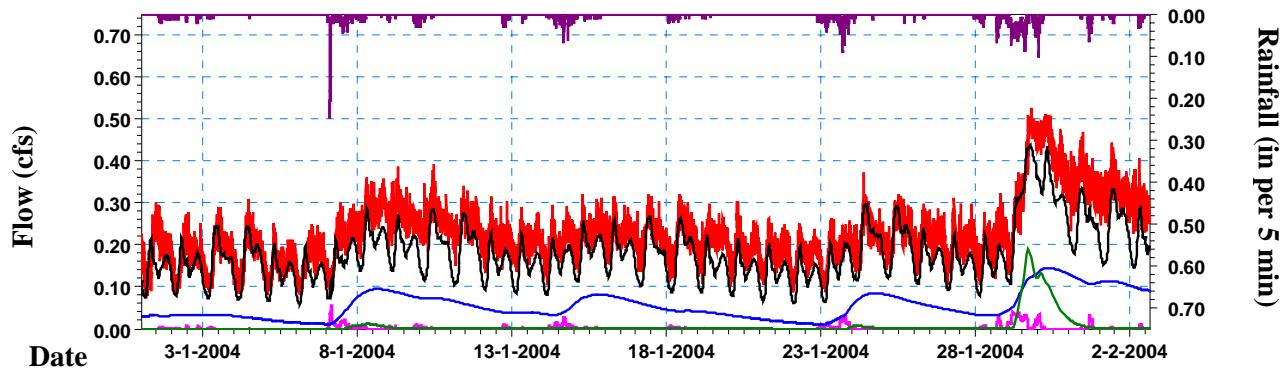
**Coal Creek Control Basin (2003-2004 Monitoring Period)**



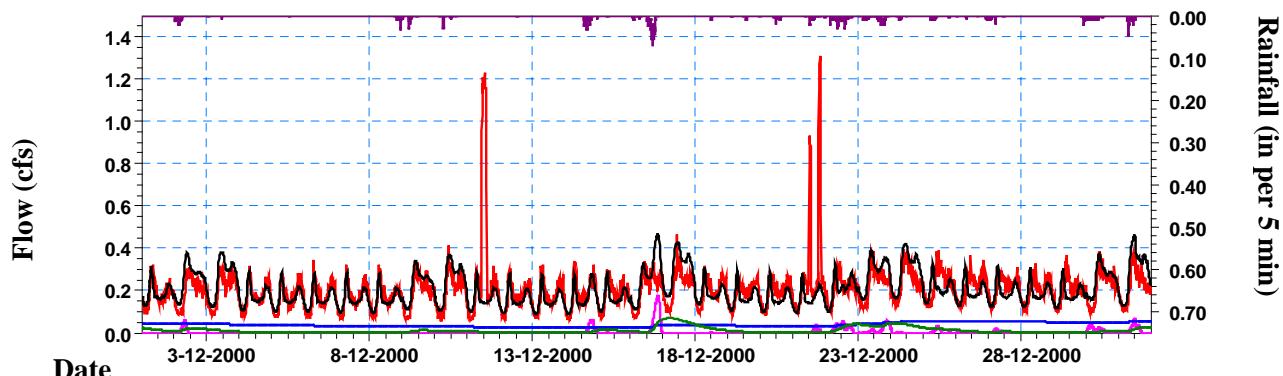
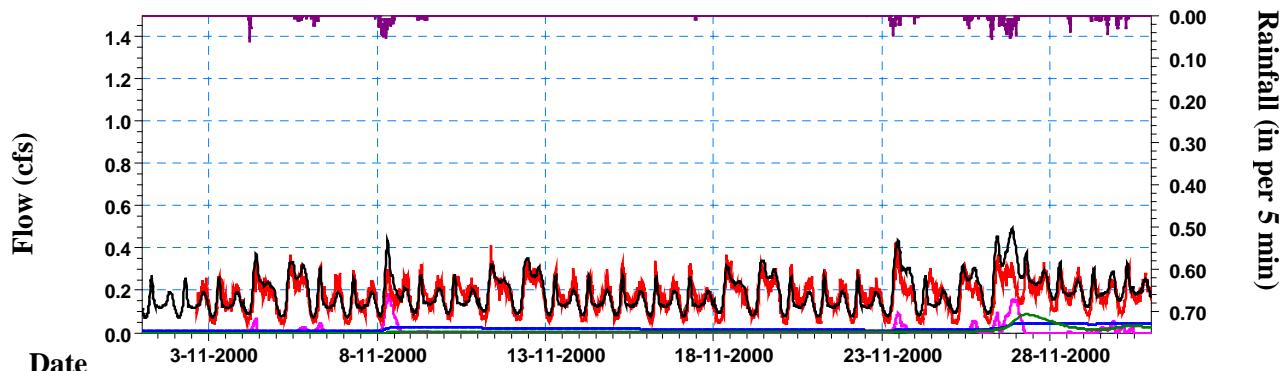
**Legend:**

|                   |   |                         |   |
|-------------------|---|-------------------------|---|
| Measured Flow     | — | Total Simulated Flow    | — |
| Measured Rainfall | — | Fast Response Component | — |
|                   |   | Slow Infiltration       | — |
|                   |   | Rapid Infiltration      | — |

Date Format (dd-mm-yyyy)

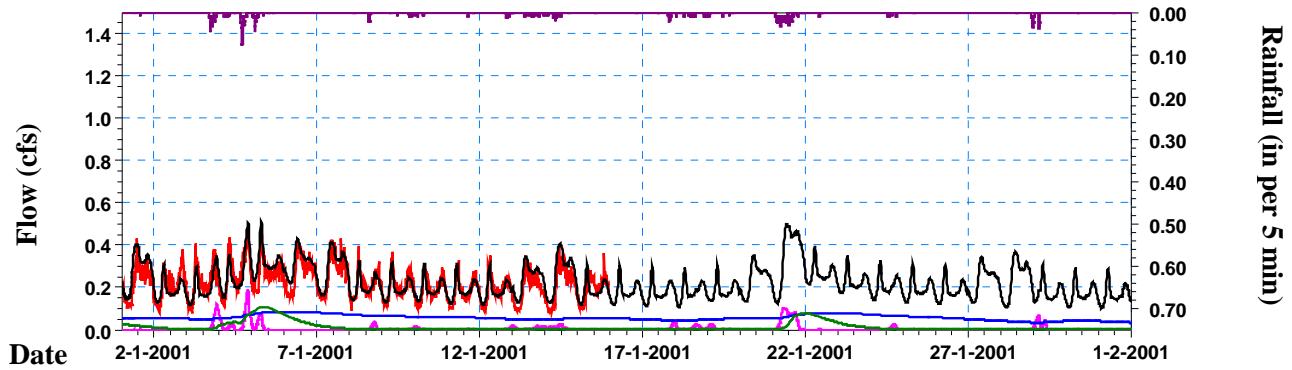


**Coal Creek Pilot Basin (2000-2001 Monitoring Period)**

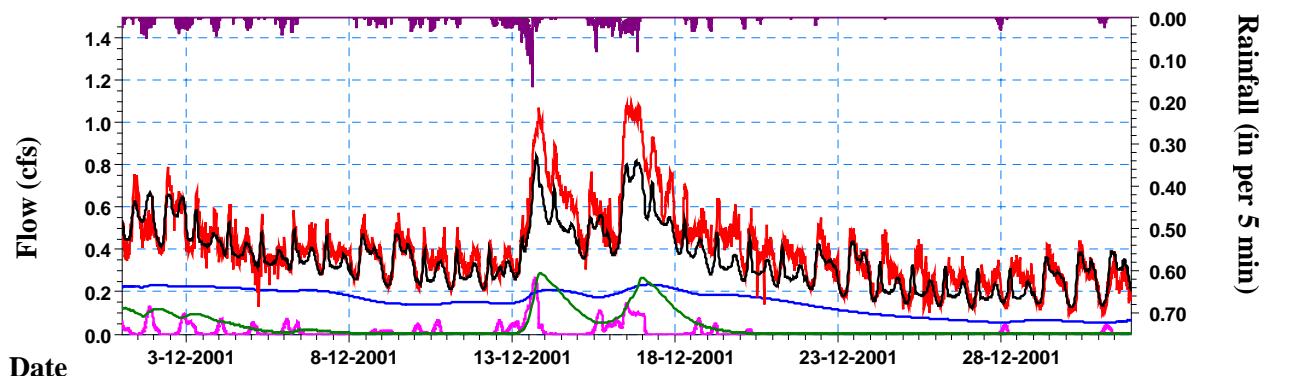
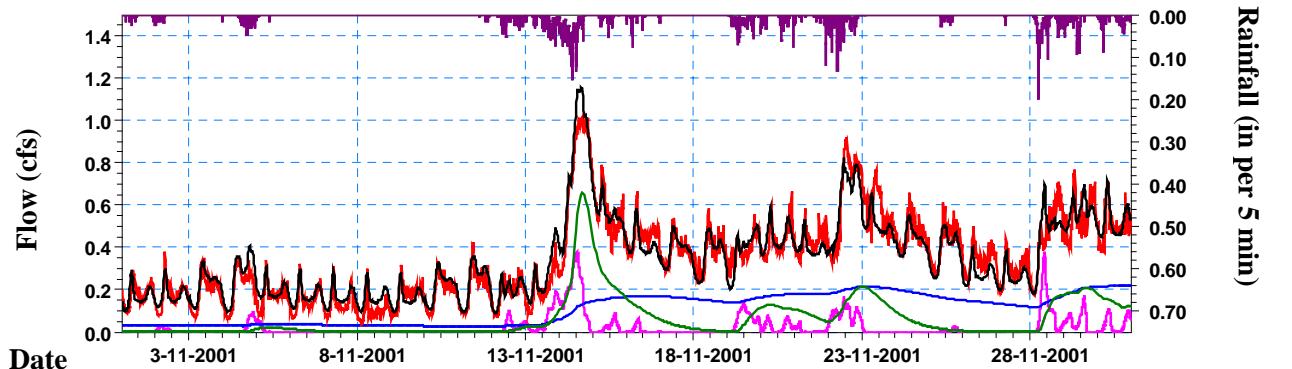


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

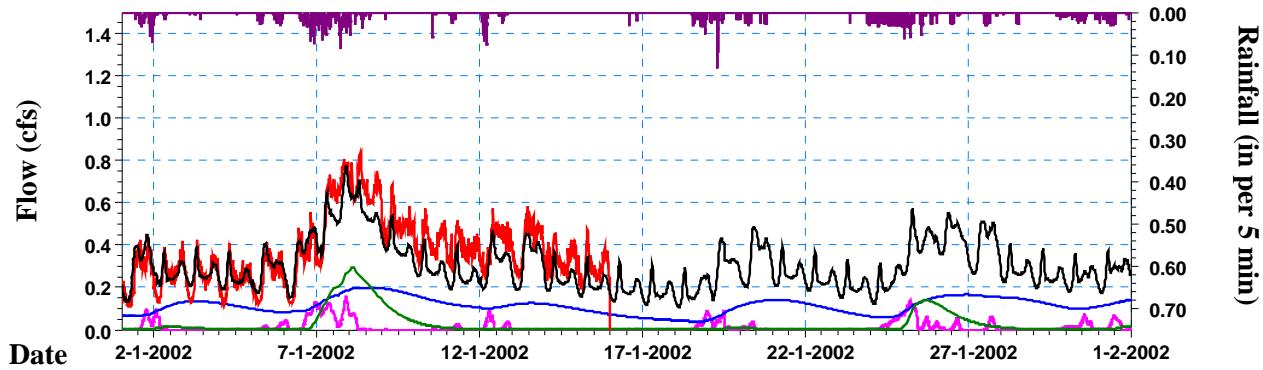


**Coal Creek Pilot Basin (2001-2002 Monitoring Period)**

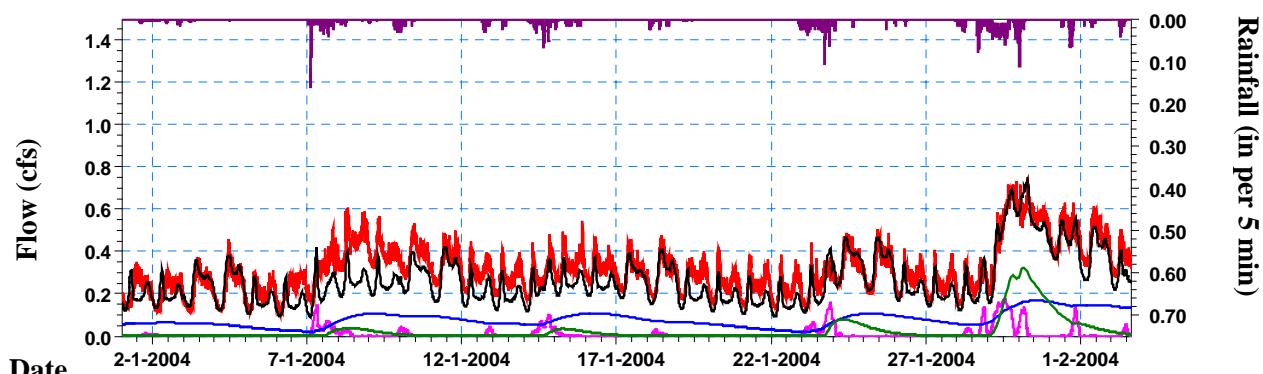
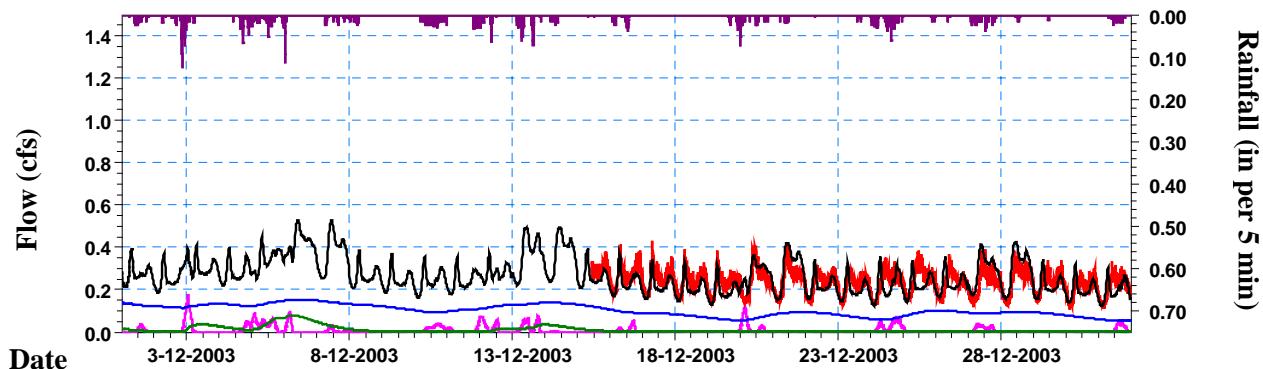


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |



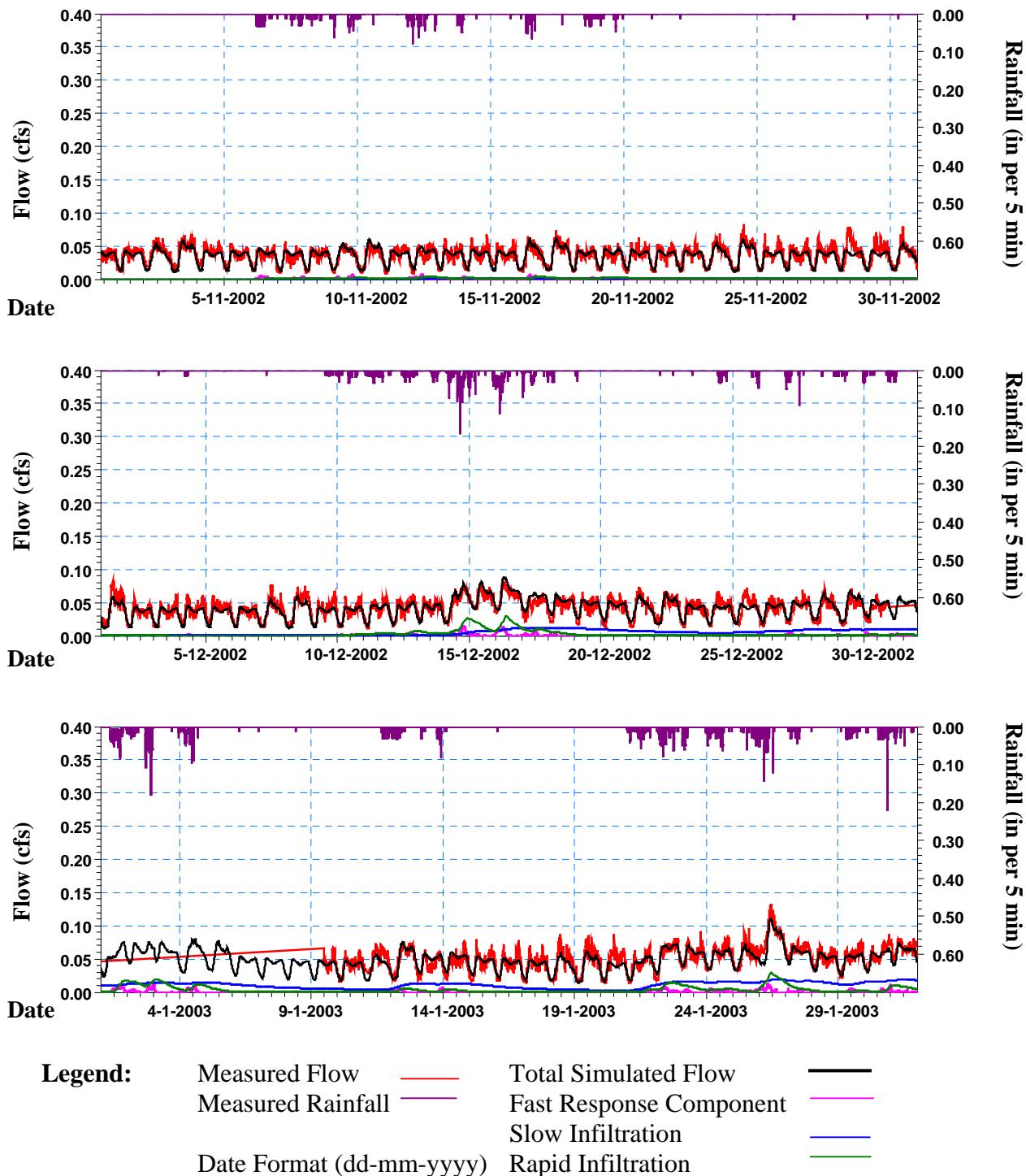
**Coal Creek Pilot Basin (2003-2004 Monitoring Period)**

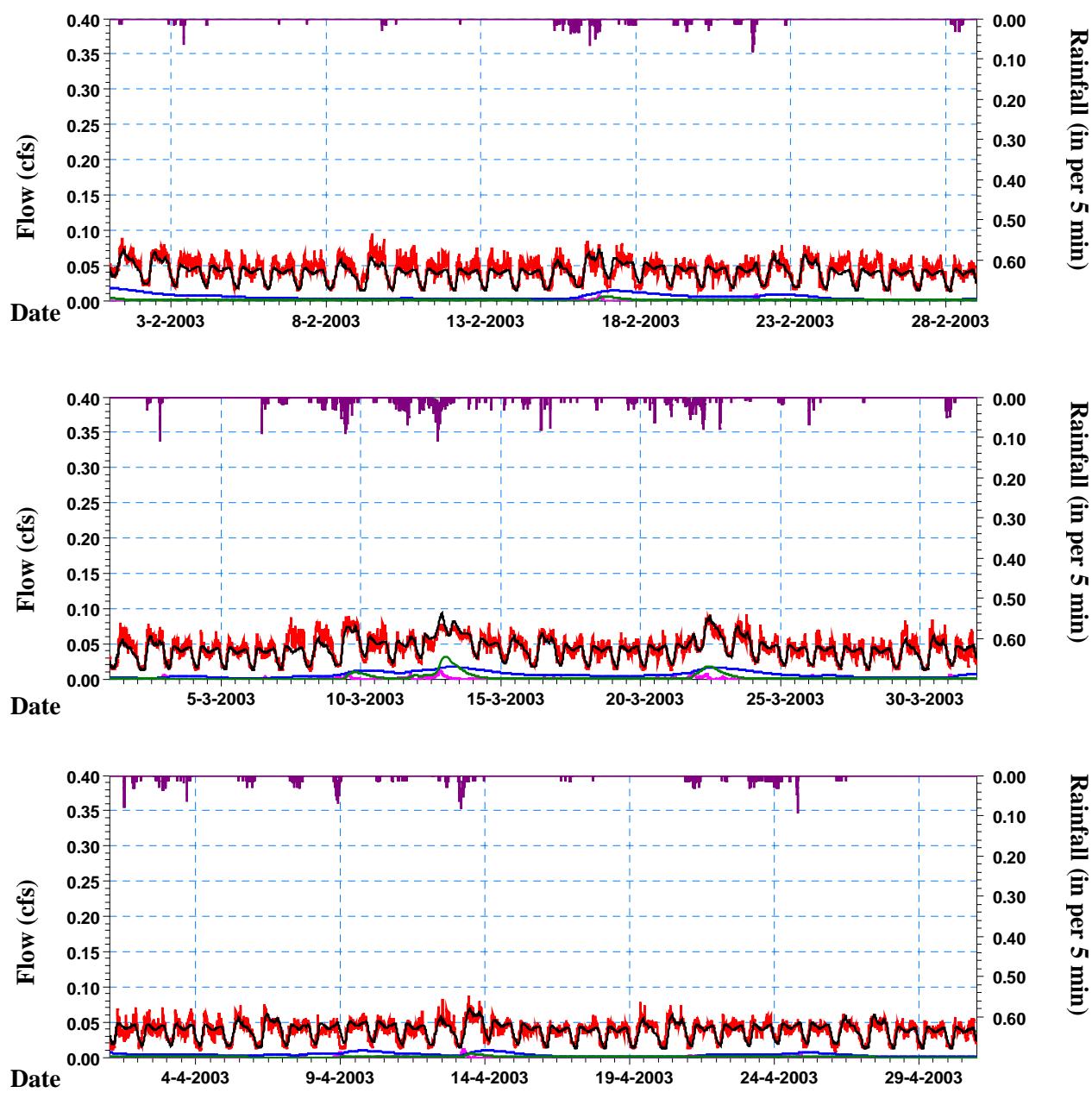


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

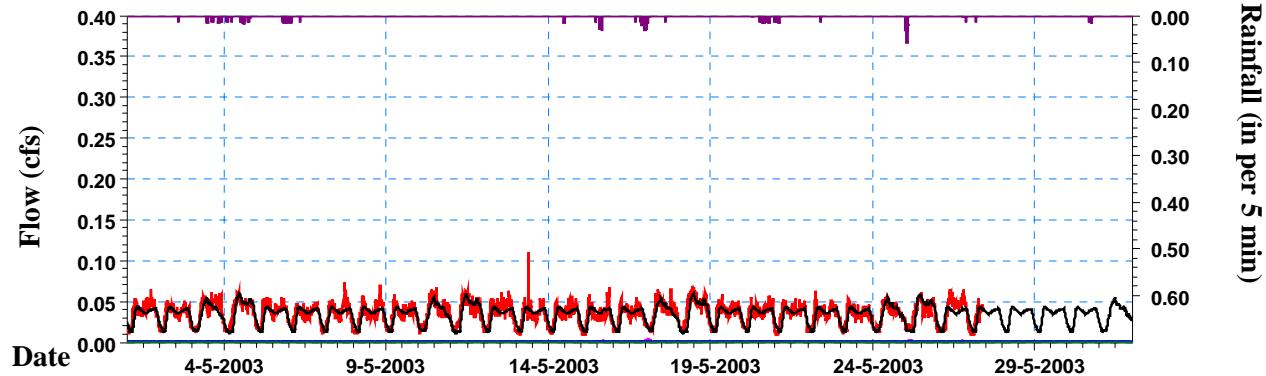
### Kent Control Basin (2002-2003 Monitoring Period)



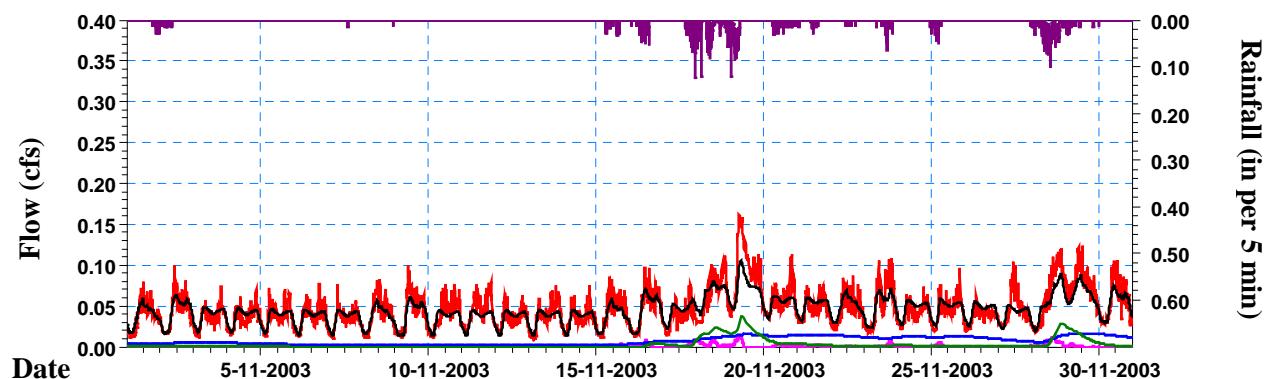
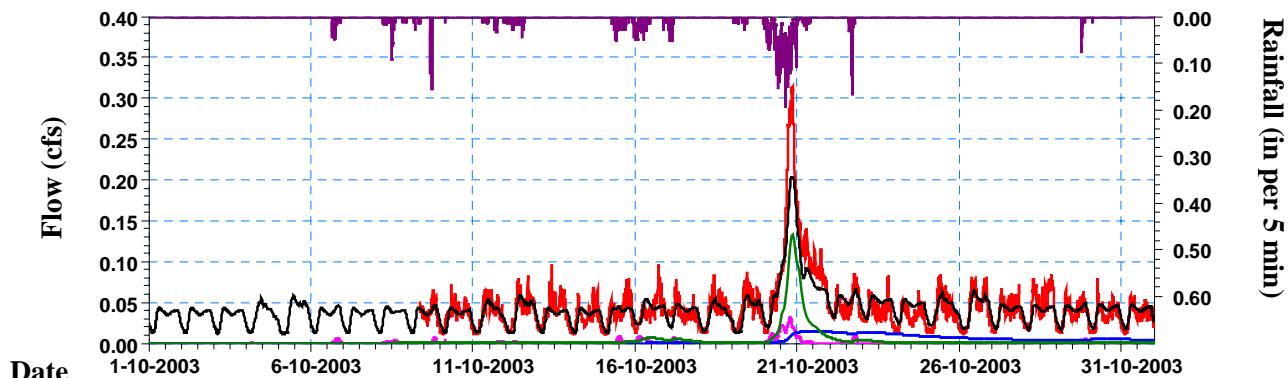


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |



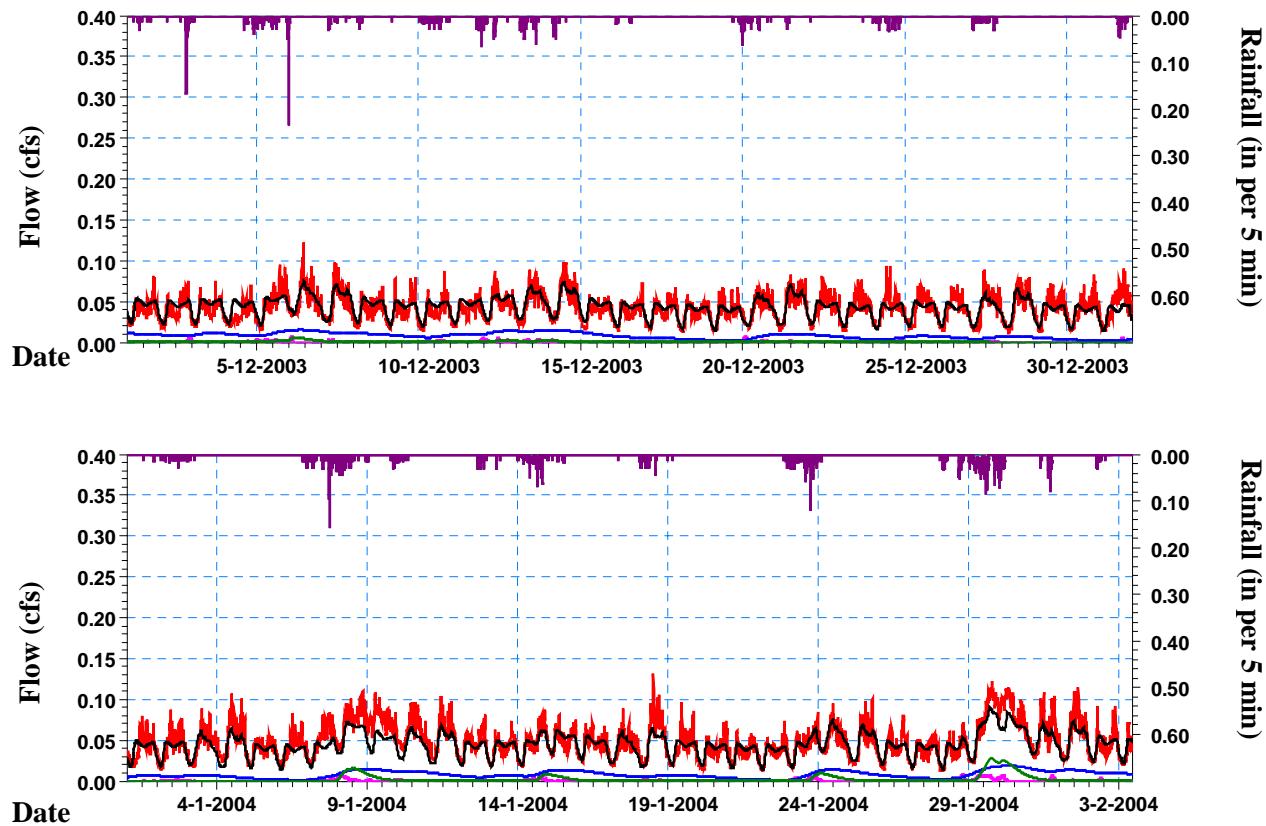
### Kent Control Basin (2003-2004 Monitoring Period)



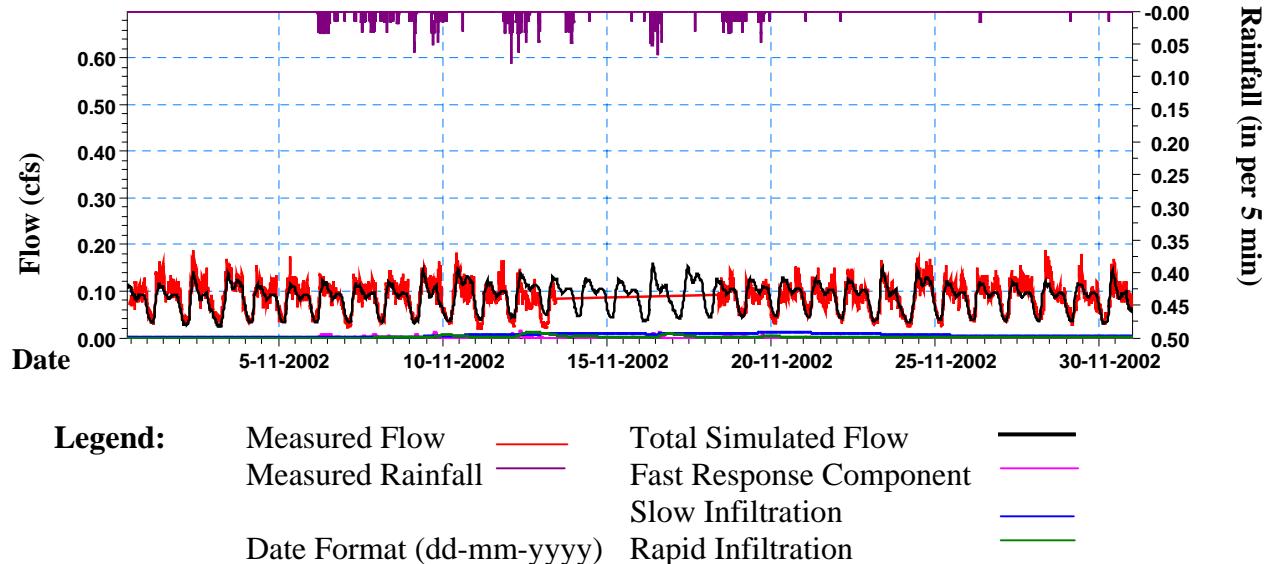
**Legend:**

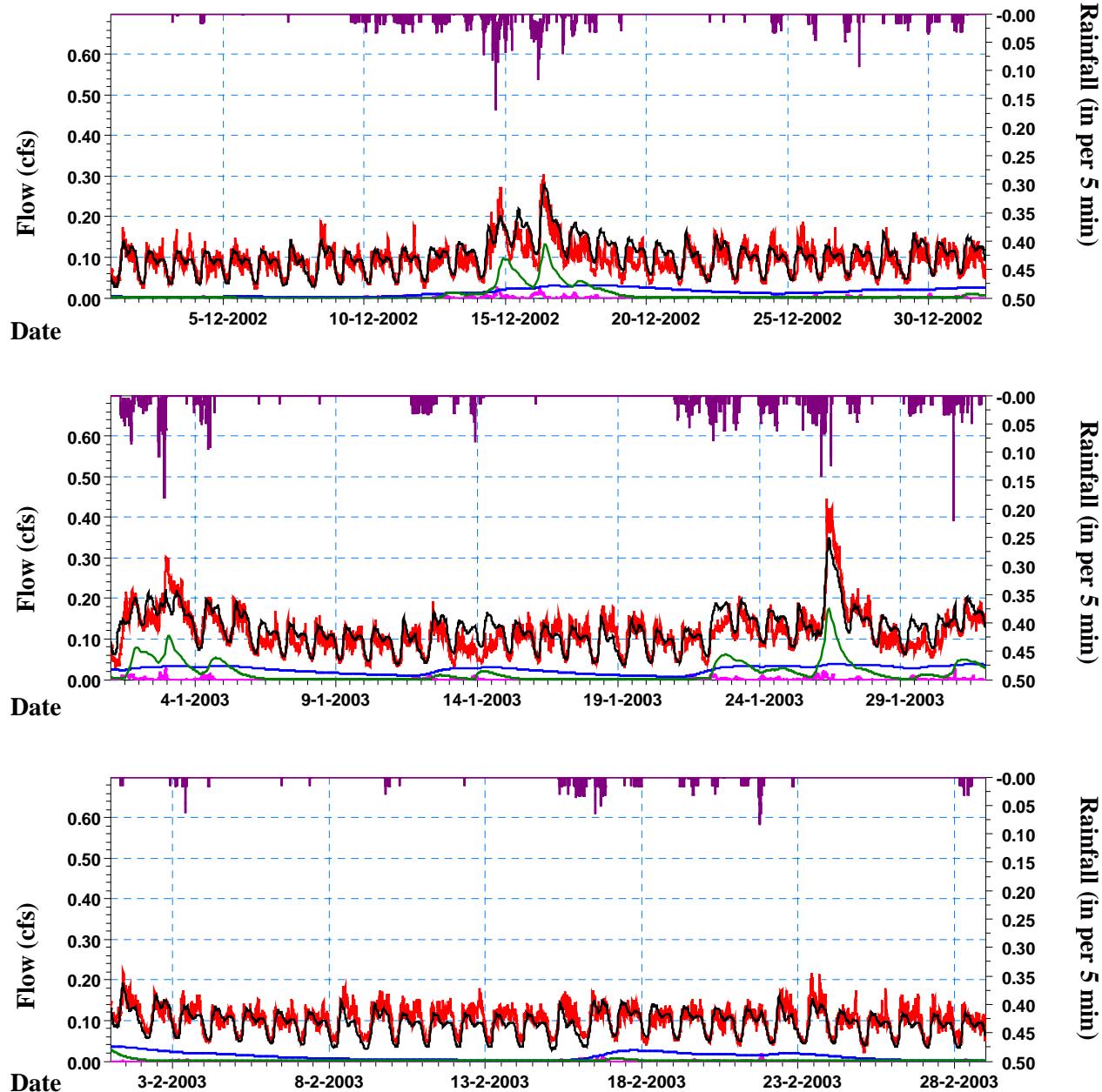
- Measured Flow ———
- Measured Rainfall ———
- Total Simulated Flow ———
- Fast Response Component ———
- Slow Infiltration ———
- Rapid Infiltration ———

Date Format (dd-mm-yyyy)



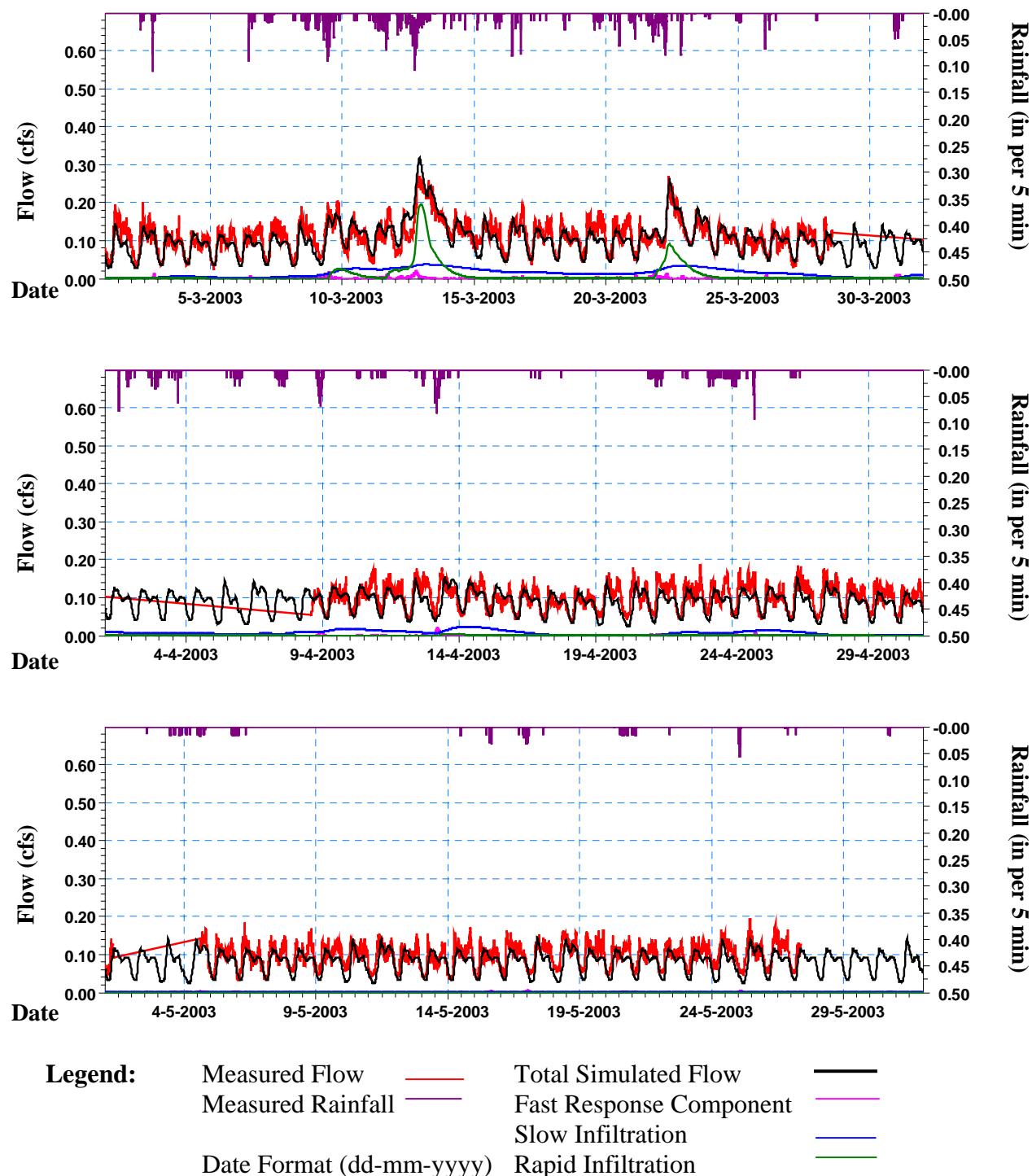
### Kent Pilot Basin (2002-2003 Monitoring Period)



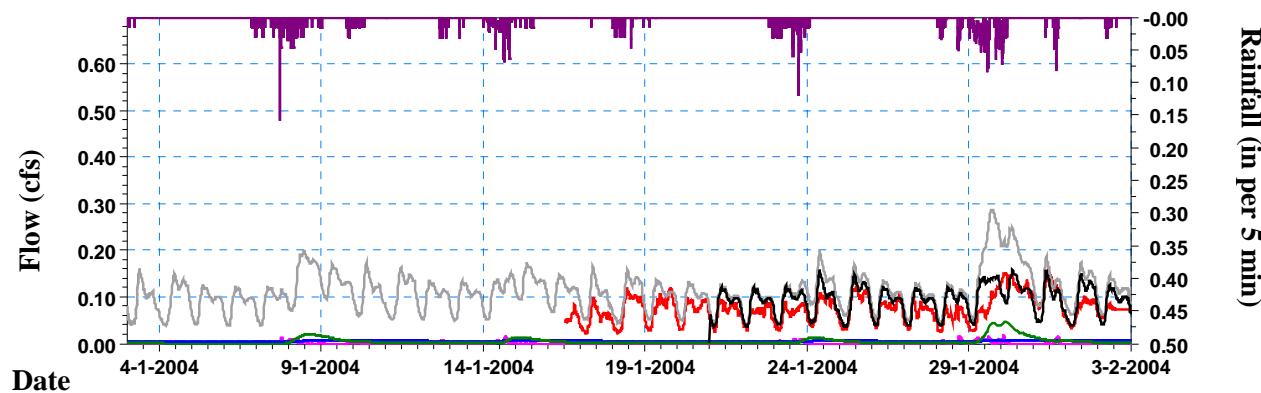


**Legend:**

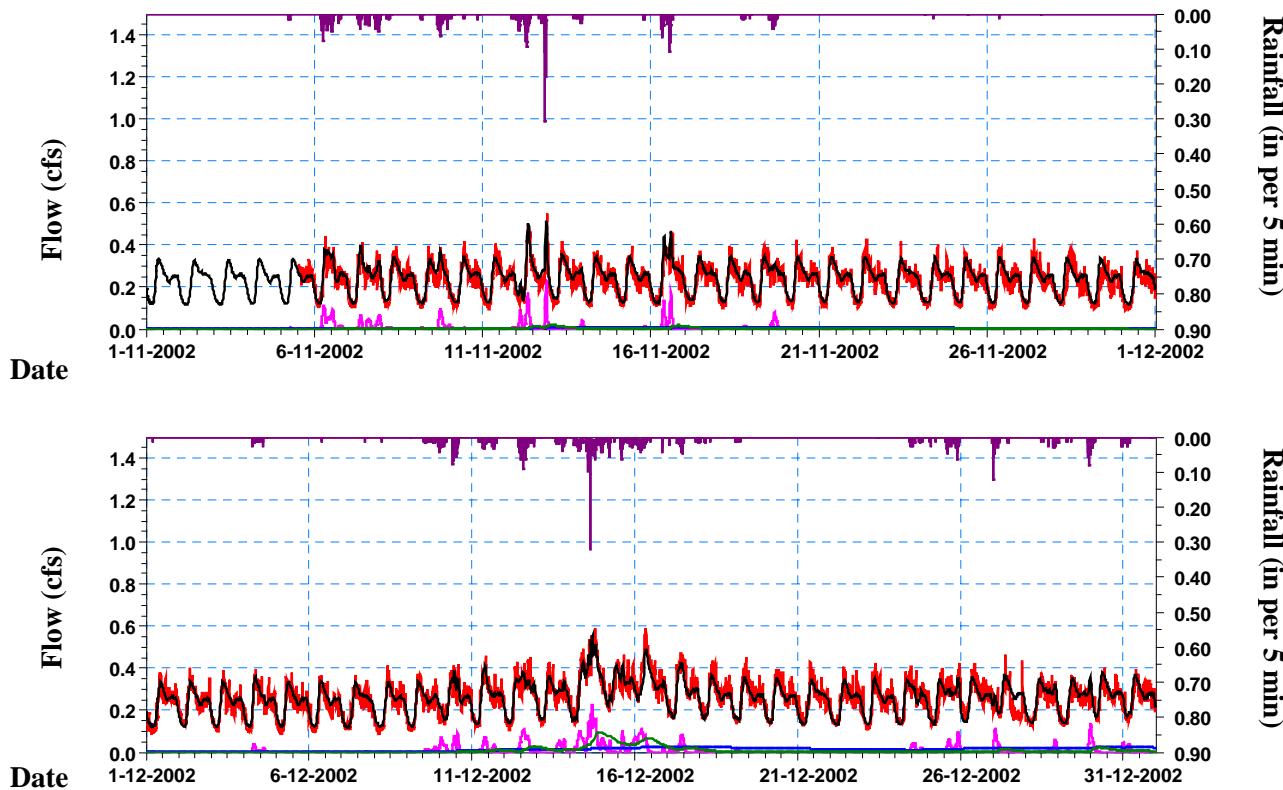
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |



### Kent Pilot Basin (2003-2004 Monitoring Period)

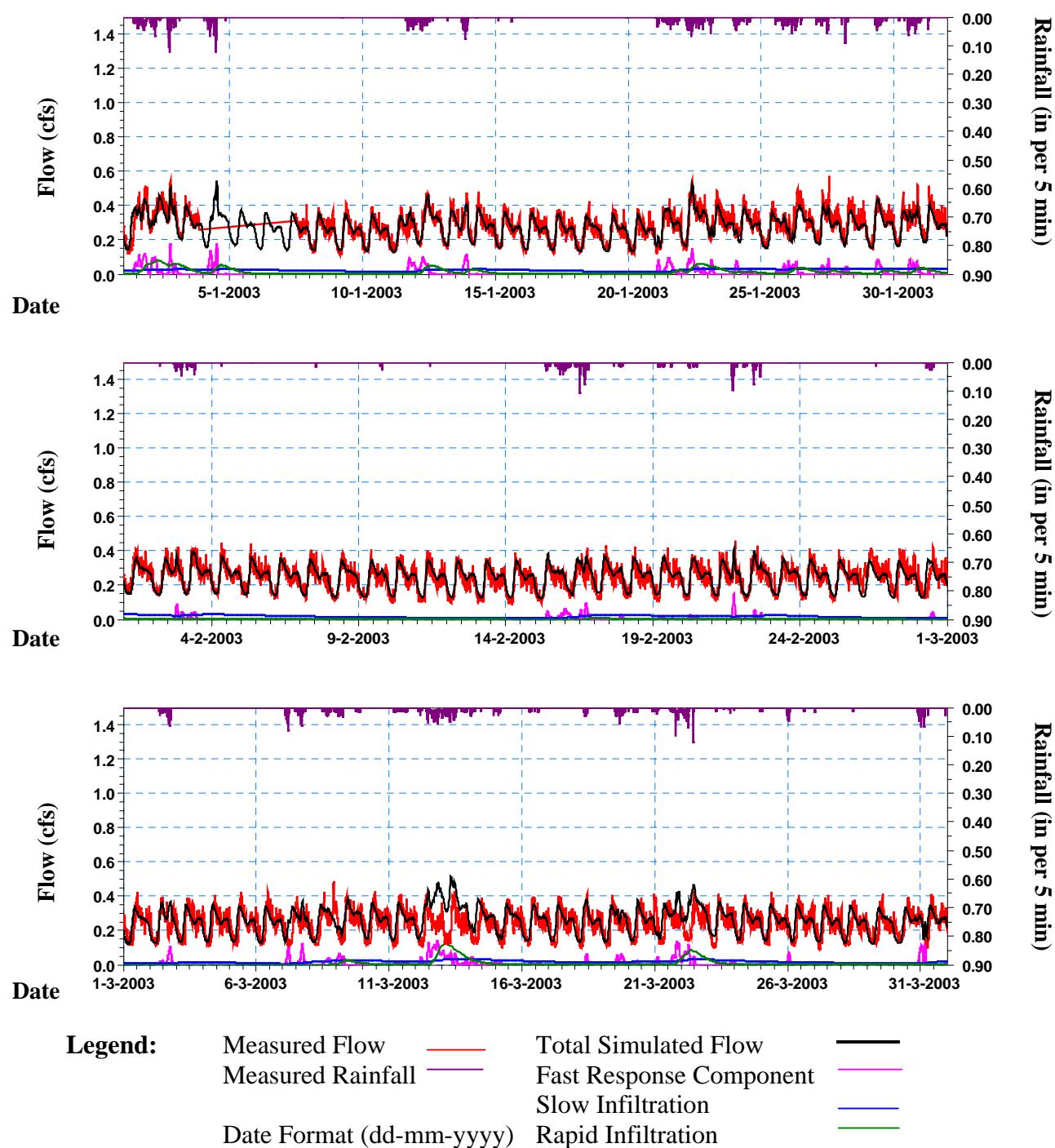


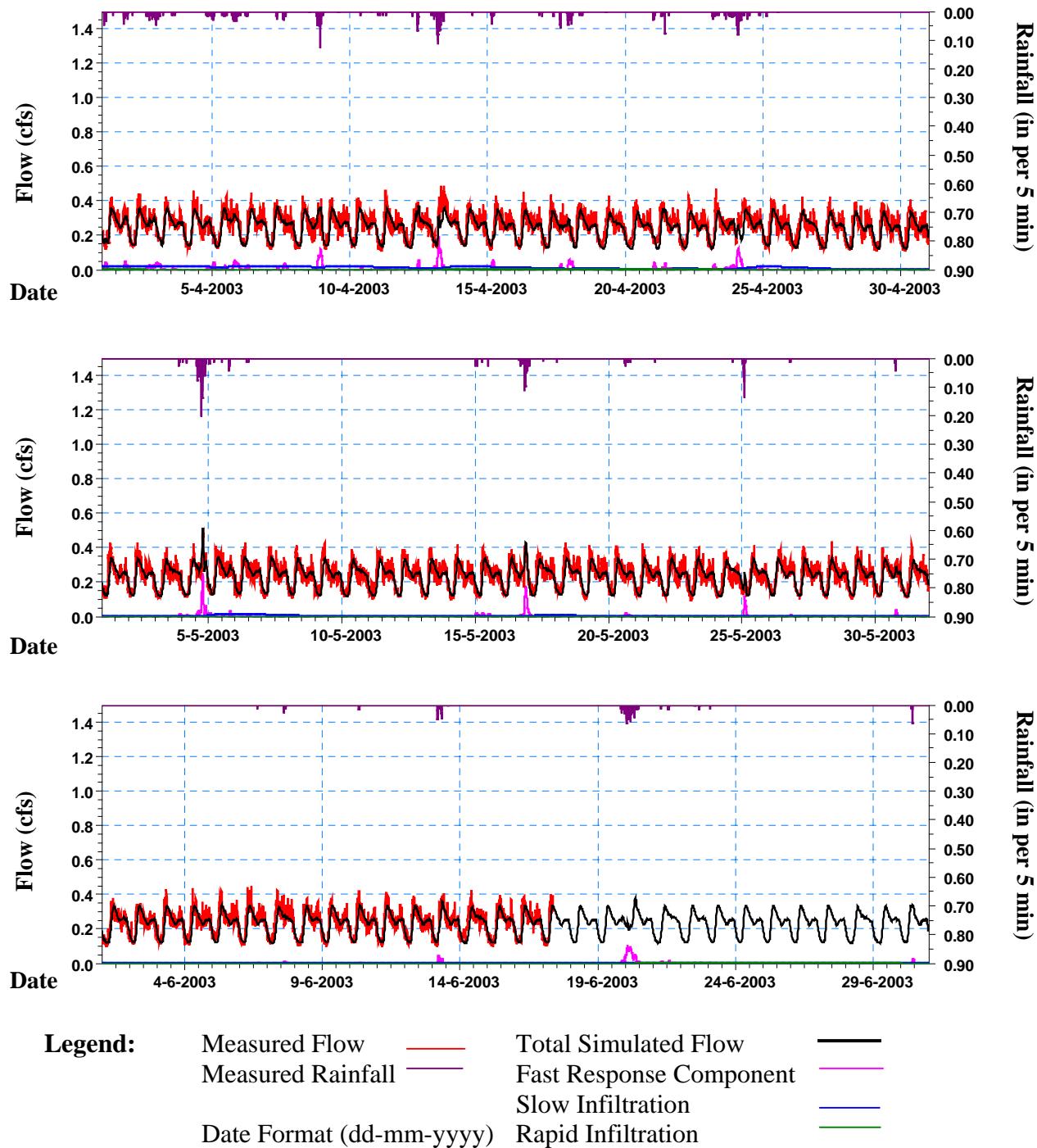
### Kirkland Control Basin (2002-2003 Monitoring Period)



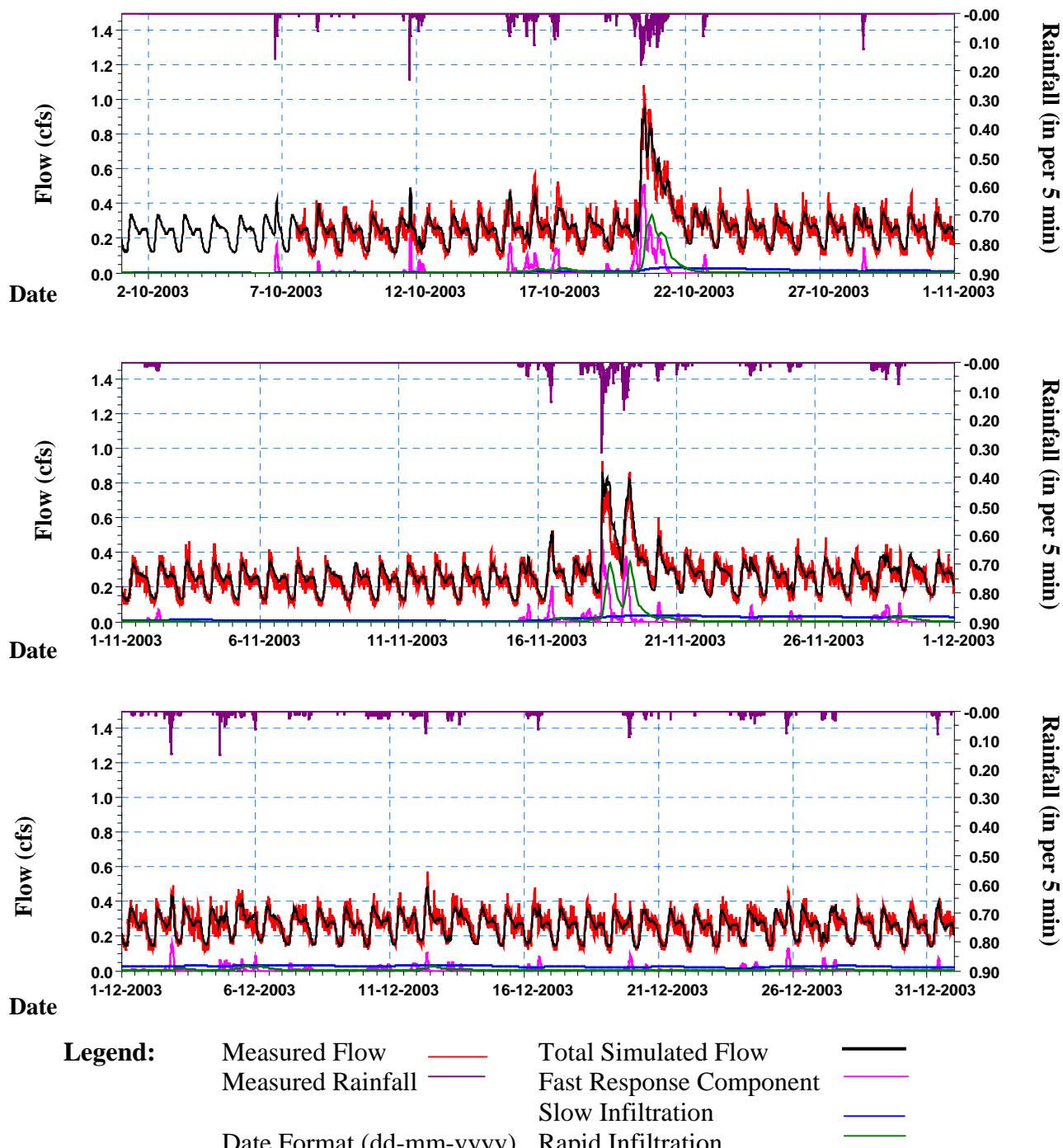
**Legend:**

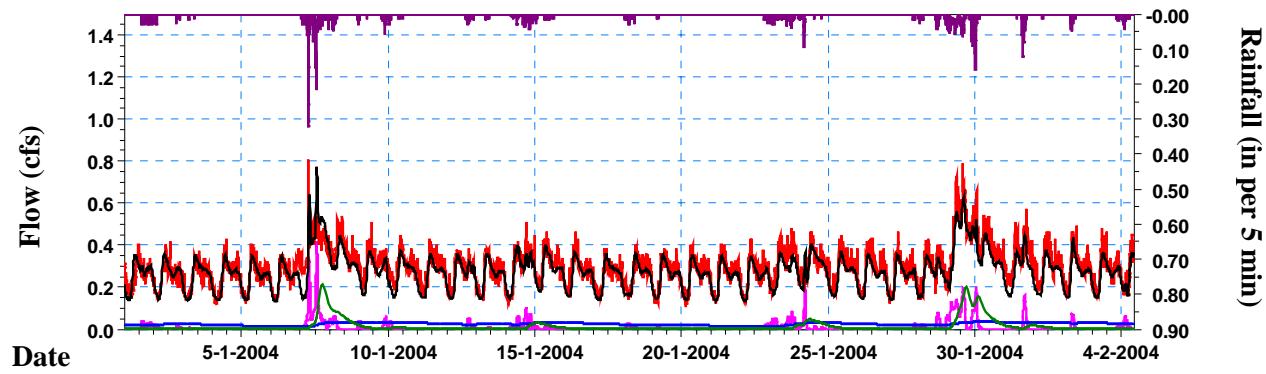
|                          |   |                                   |   |
|--------------------------|---|-----------------------------------|---|
| Measured Flow            | — | Total Simulated Flow              | — |
| Measured Rainfall        | — | Fast Response Component           | — |
|                          |   | Slow Infiltration                 | — |
|                          |   | Rapid Infiltration                | — |
| Date Format (dd-mm-yyyy) | — | Pre-rehabilitation Simulated Flow | — |



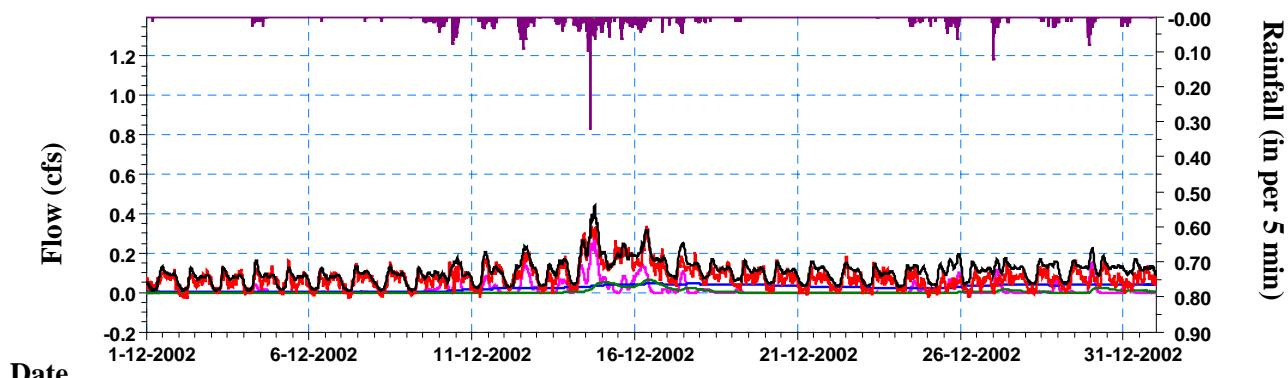
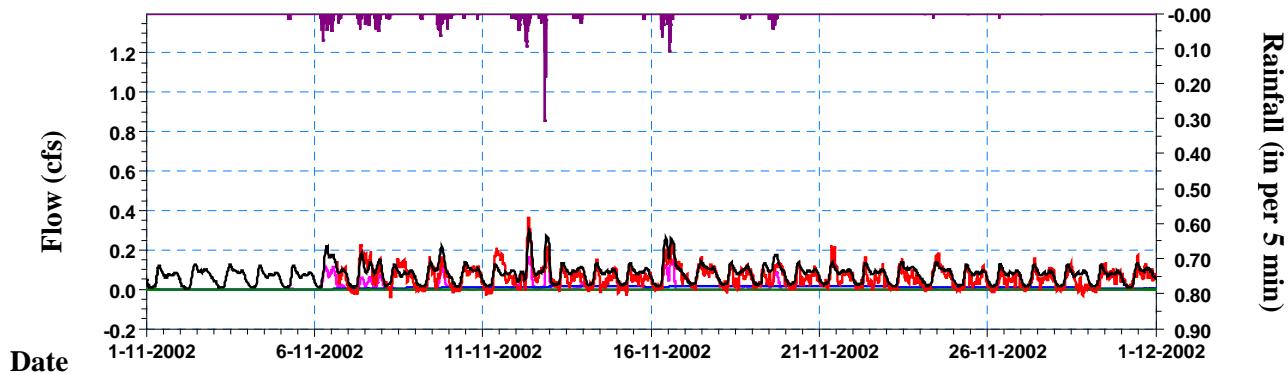


### Kirkland Control Basin (2003-2004 Monitoring Period)



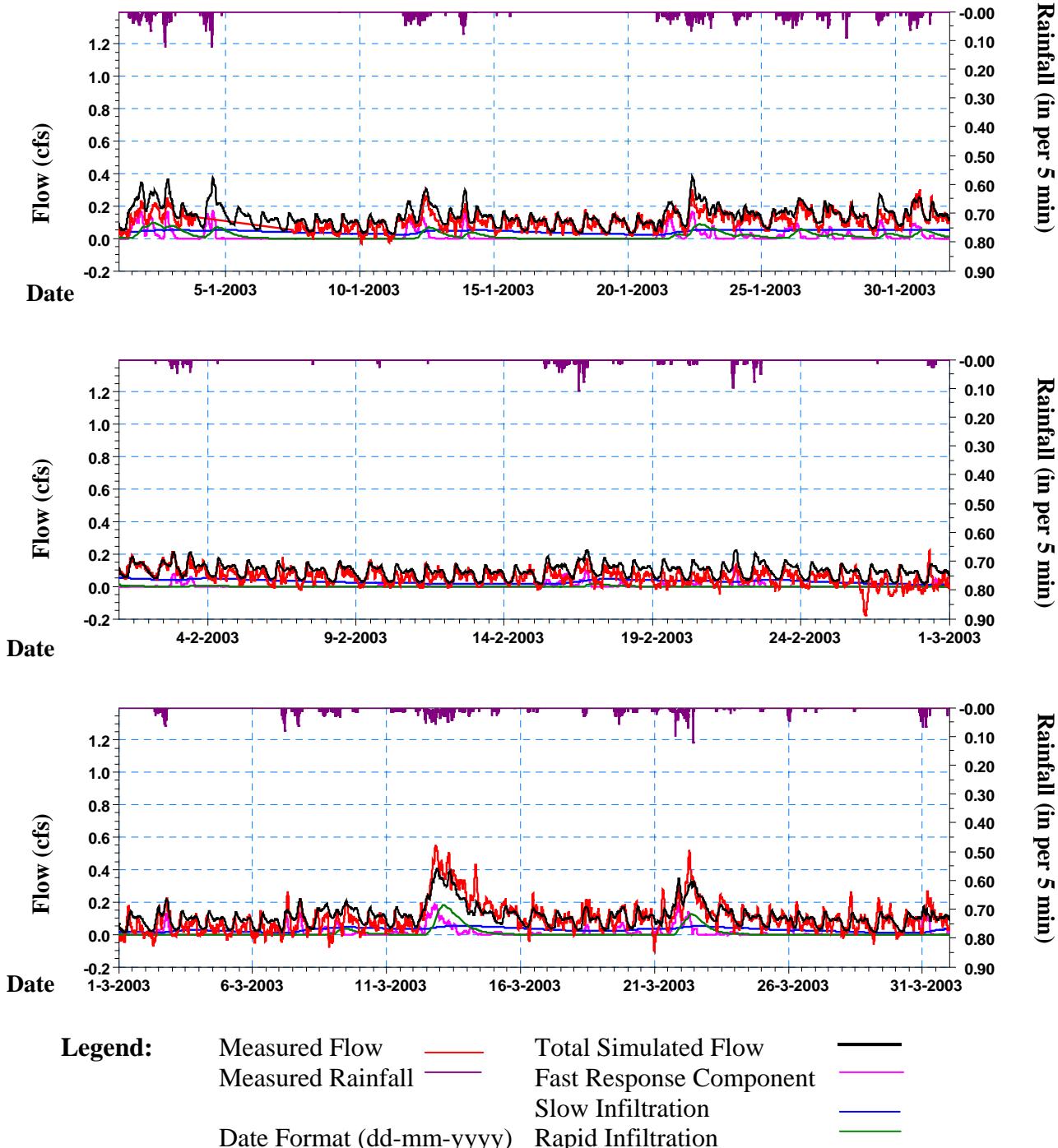


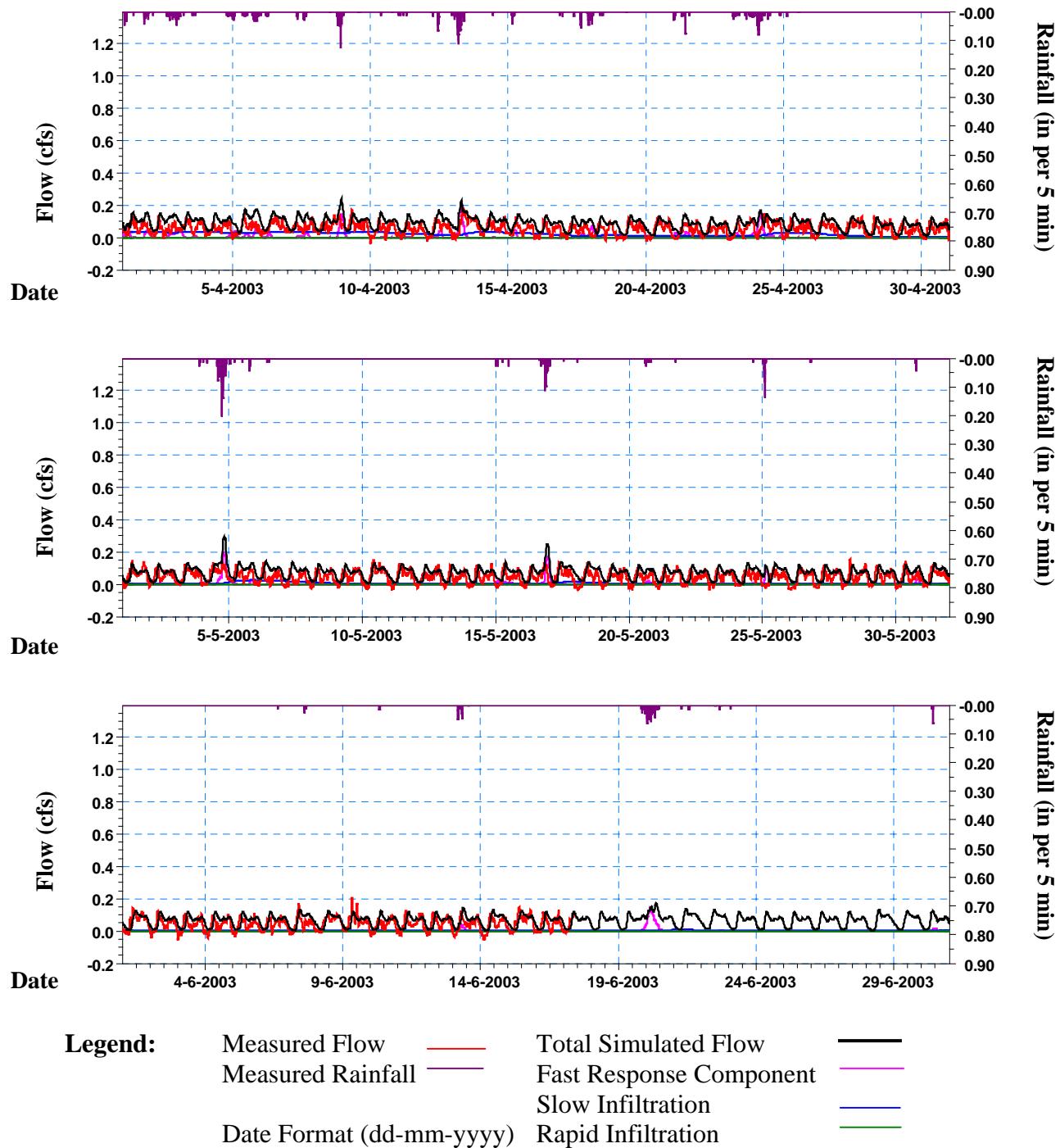
**Kirkland Pilot Basin (2002-2003 Monitoring Period)**



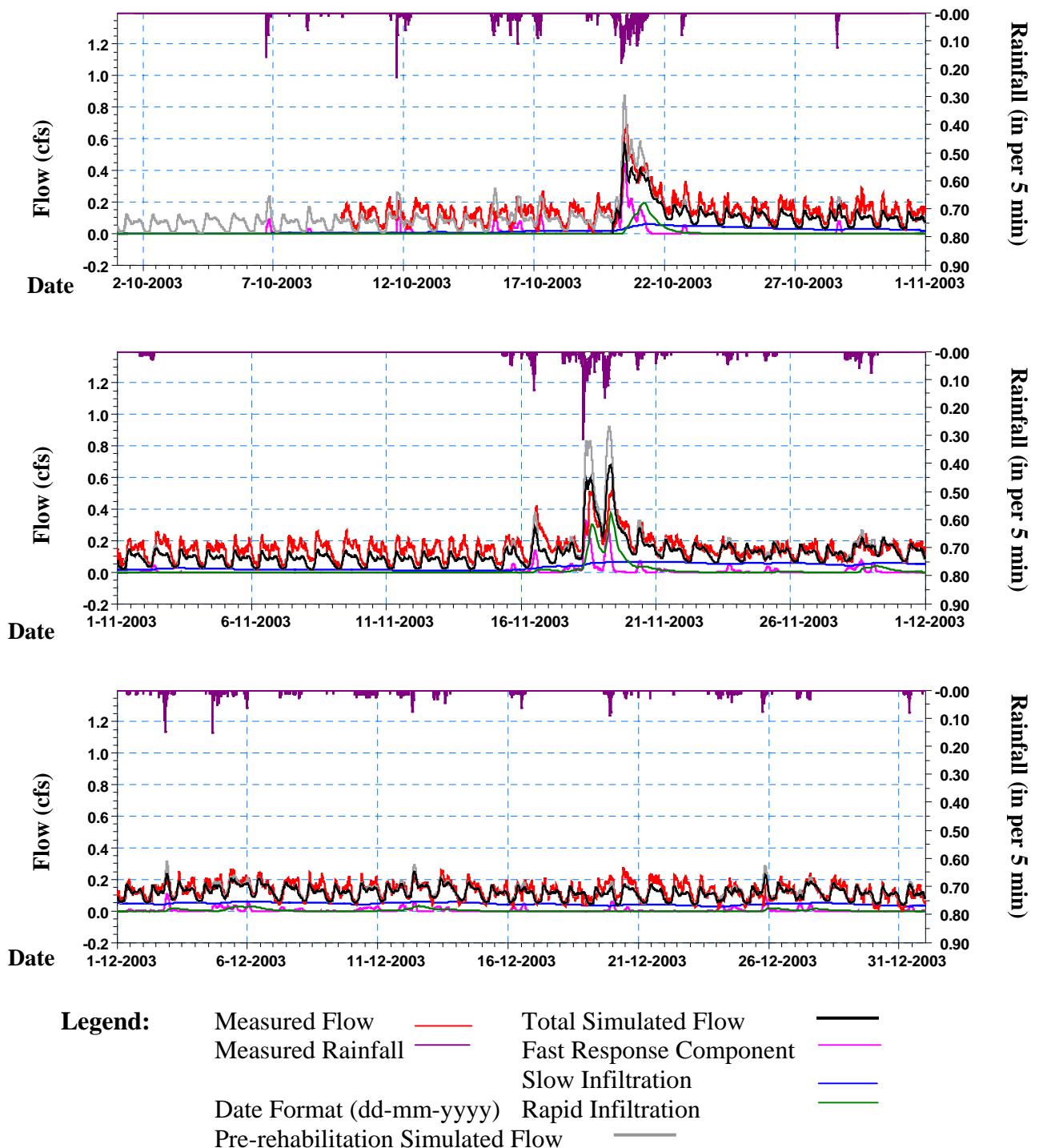
**Legend:**

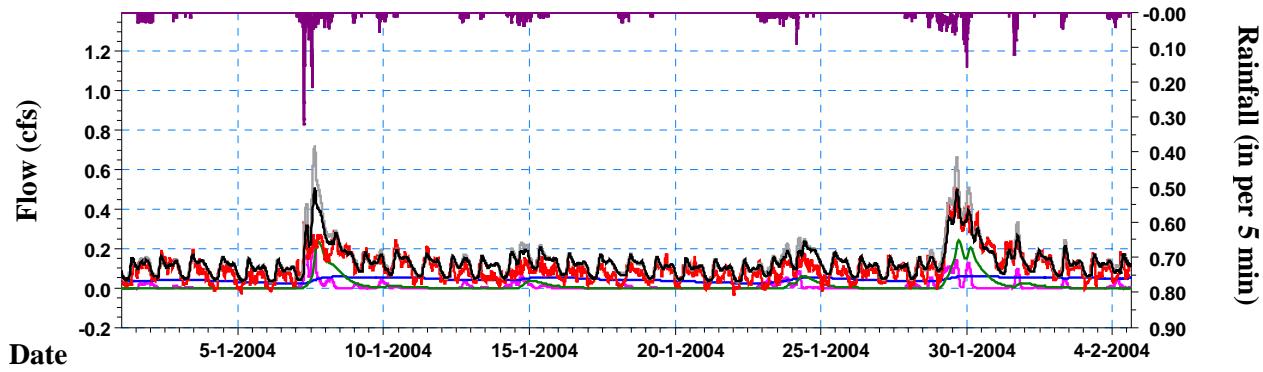
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |



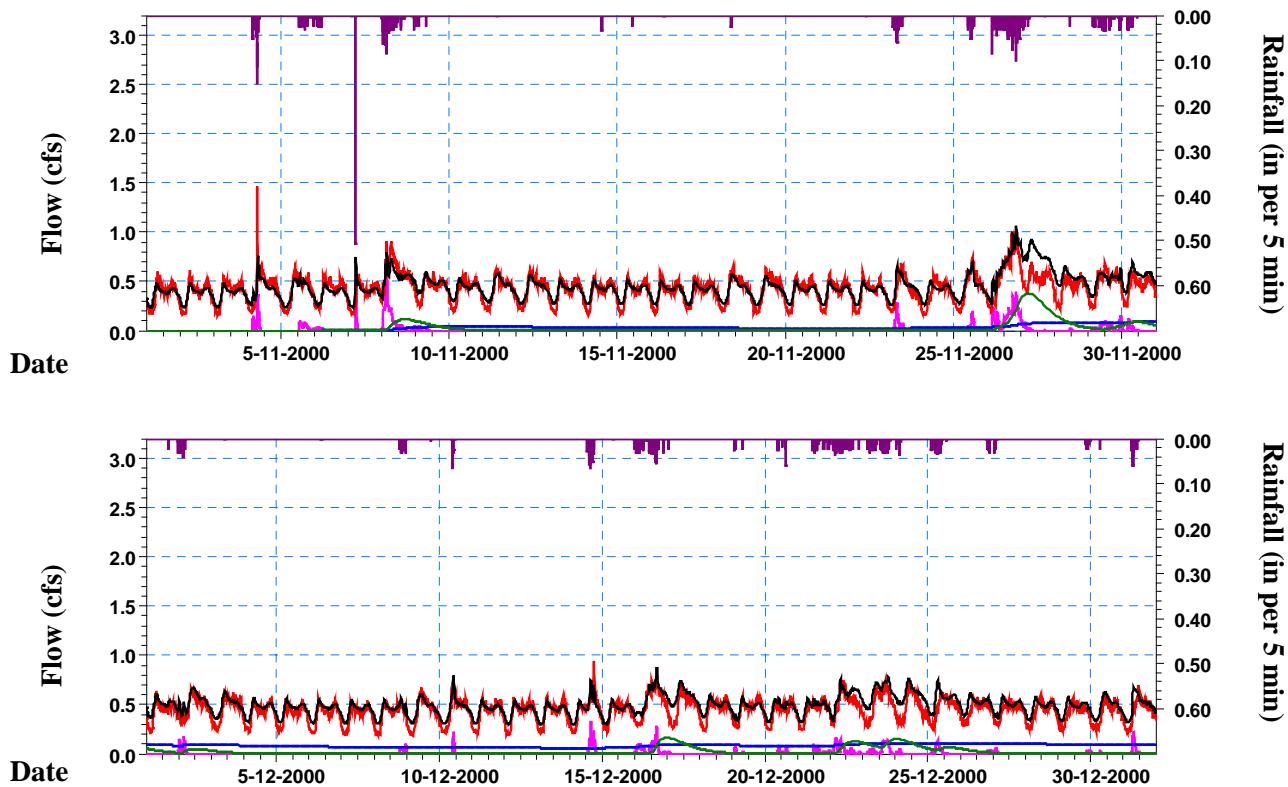


### Kirkland Pilot Basin (2003-2004 Monitoring Period)



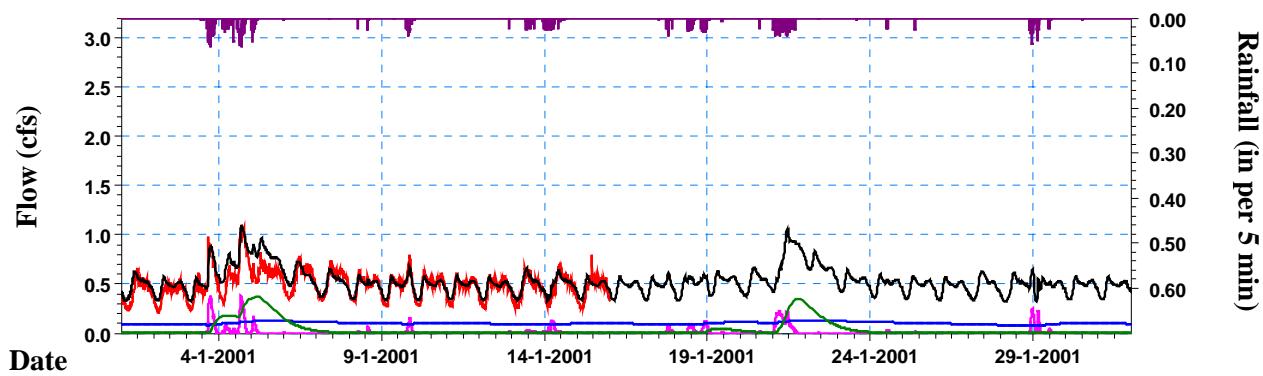


### Lake Forest Park Control Basin (2000-2001 Monitoring Period)

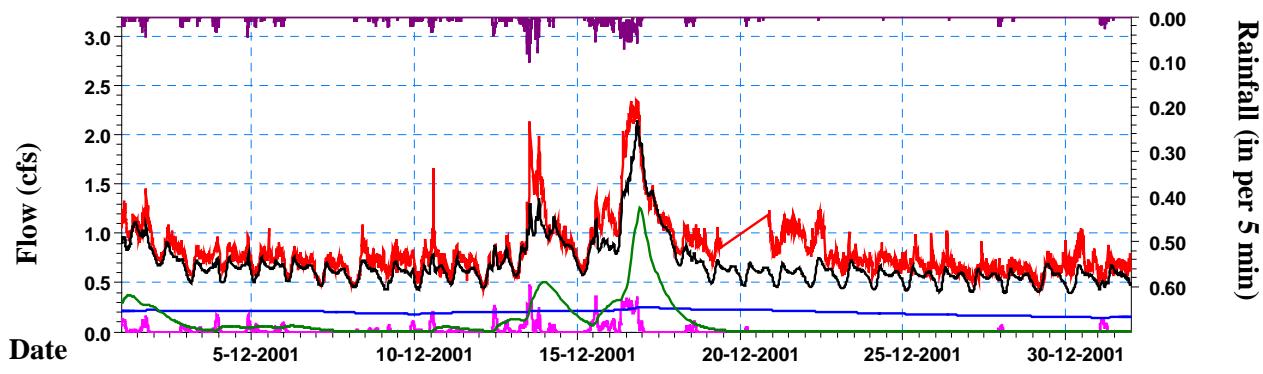
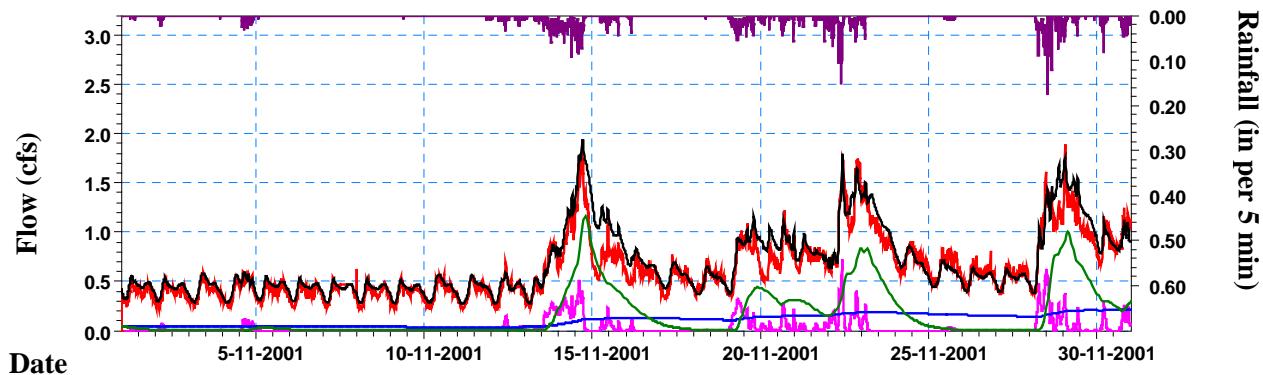


**Legend:**

|                                   |   |                         |   |
|-----------------------------------|---|-------------------------|---|
| Measured Flow                     | — | Total Simulated Flow    | — |
| Measured Rainfall                 | — | Fast Response Component | — |
|                                   |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy)          | — | Rapid Infiltration      | — |
| Pre-rehabilitation Simulated Flow | — |                         |   |

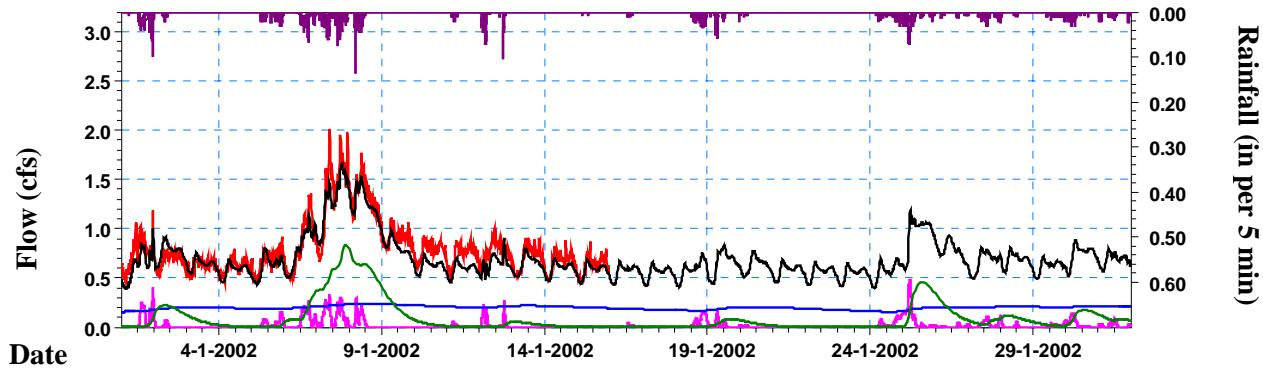


### Lake Forest Park Control Basin (2001-2002 Monitoring Period)

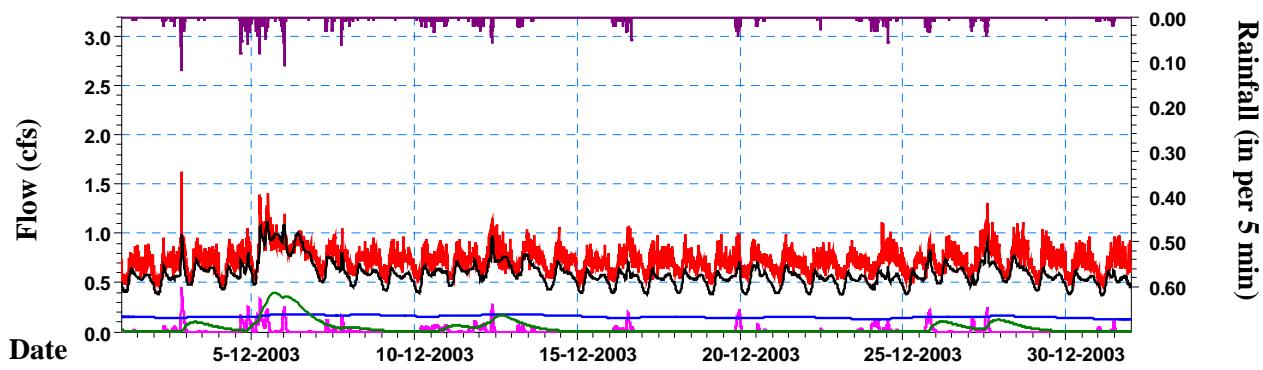
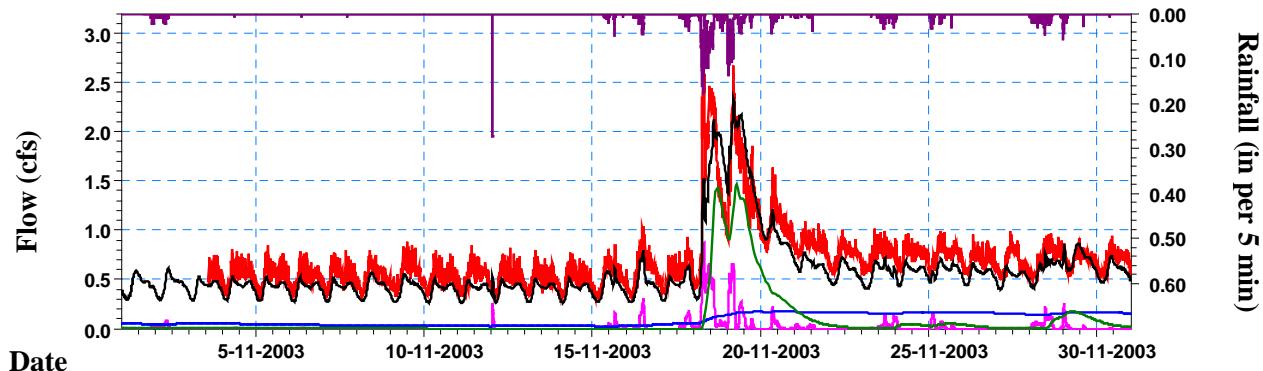


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

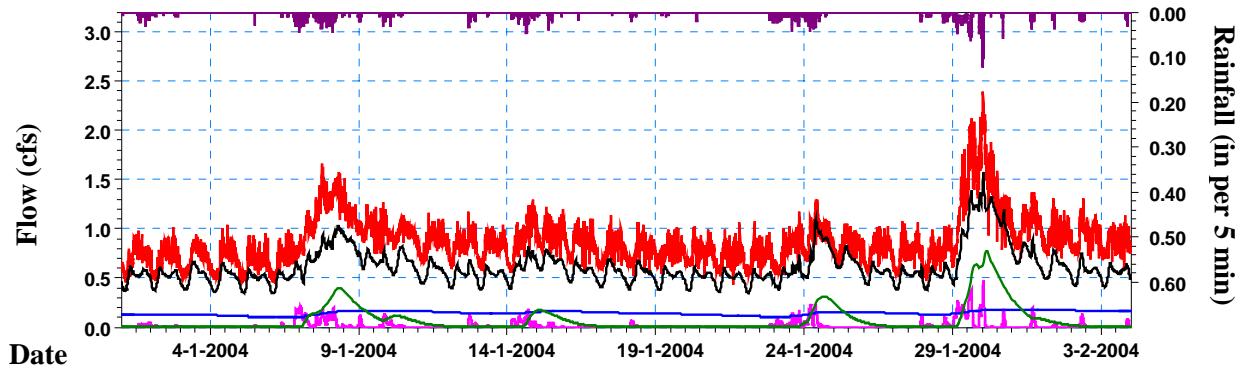


**Lake Forest Park Control Basin (2003-2004 Monitoring Period)**

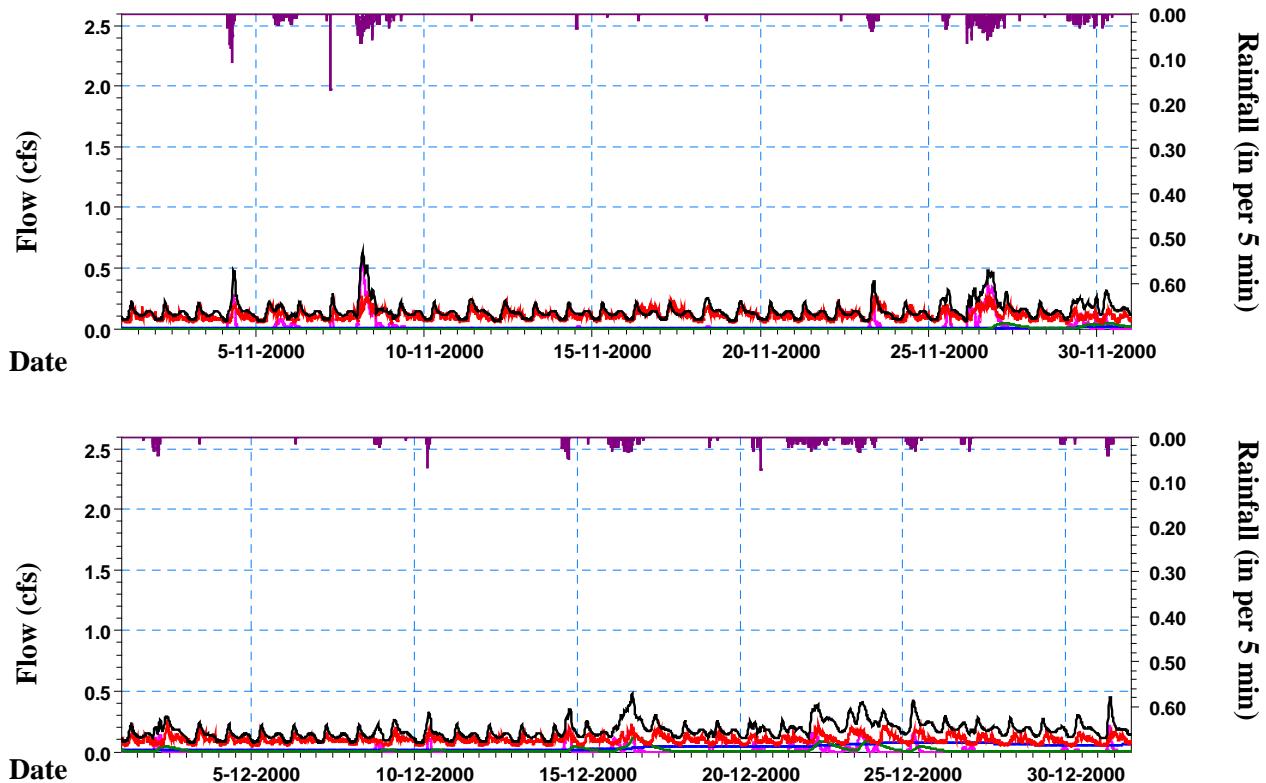


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

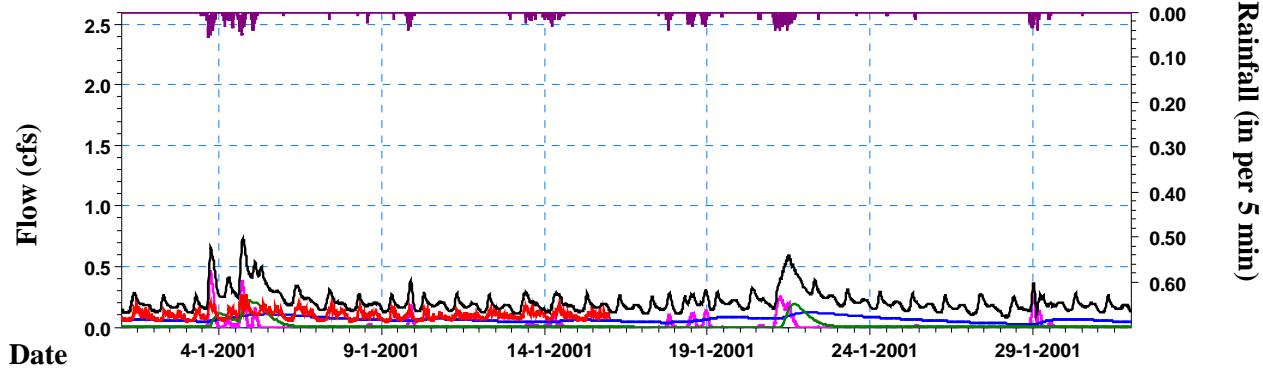


### Lake Forest Park Pilot Basin (2000-2001 Monitoring Period)

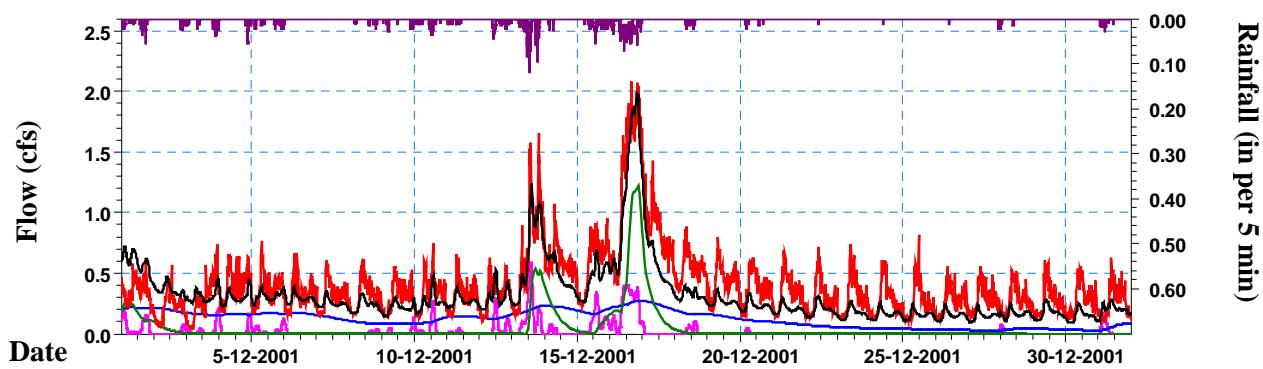
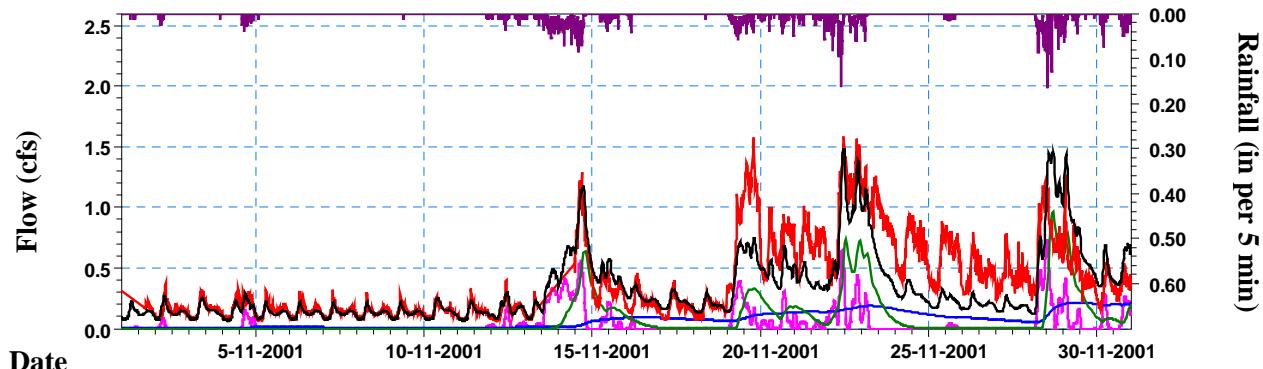


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          | — | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) | — | Rapid Infiltration      | — |

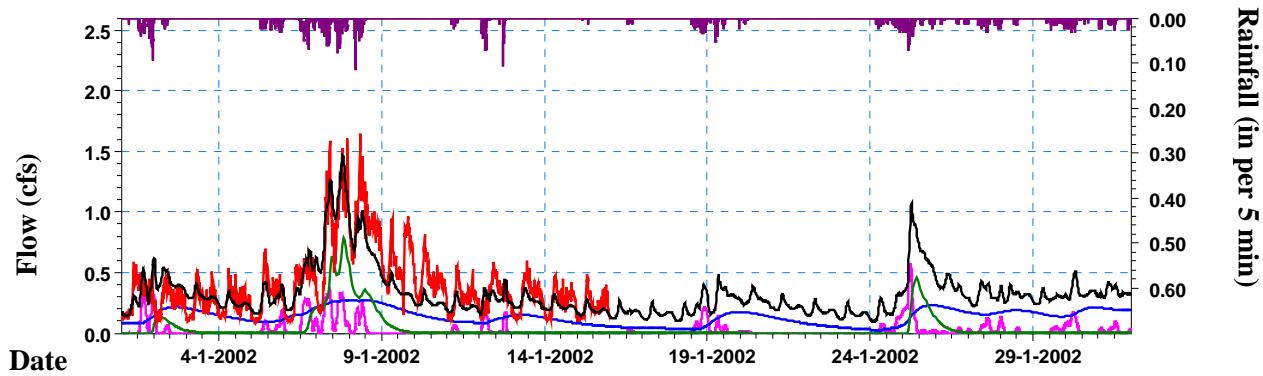


### Lake Forest Park Pilot Basin (2001-2002 Monitoring Period)

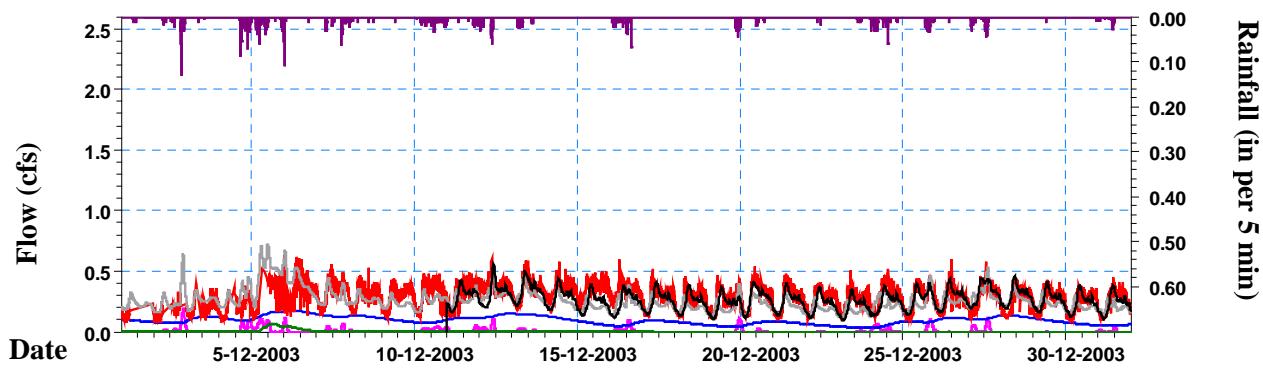
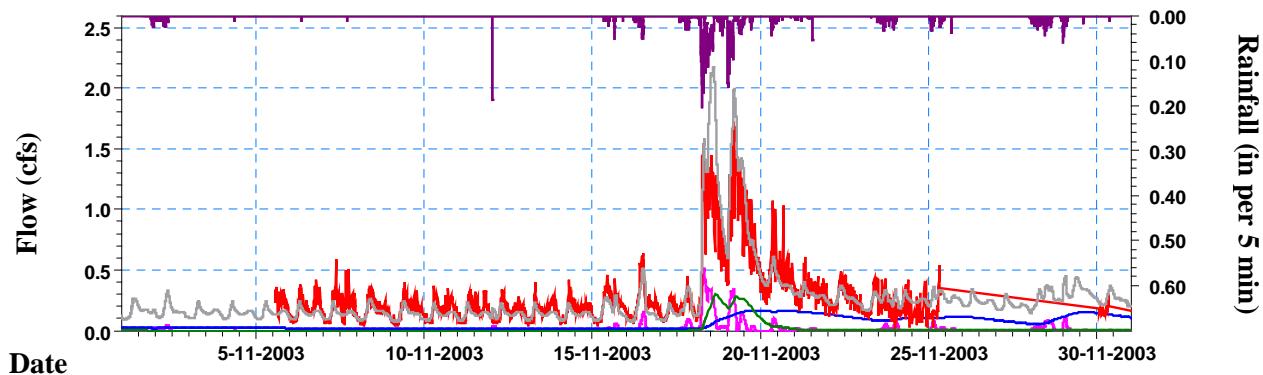


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

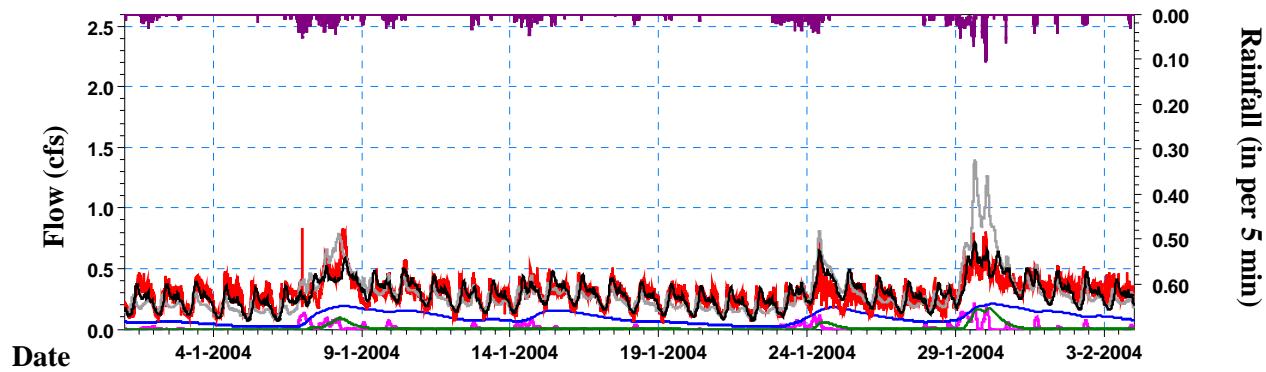


**Lake Forest Park Pilot Basin (2003-2004 Monitoring Period)**

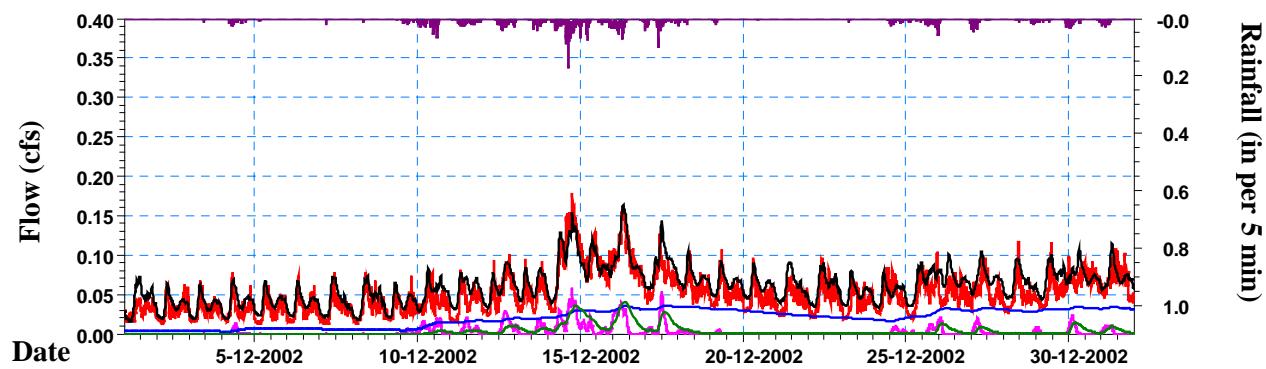
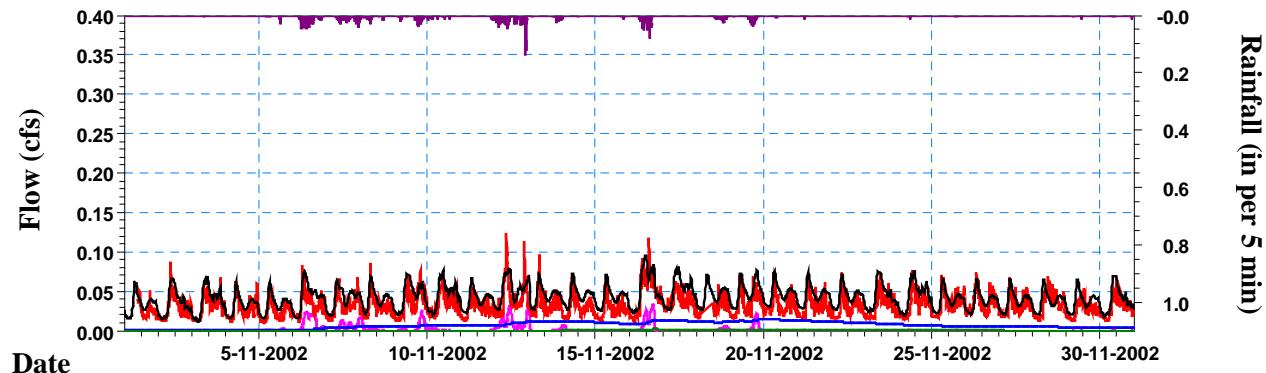


**Legend:**

|                                   |   |                         |   |
|-----------------------------------|---|-------------------------|---|
| Measured Flow                     | — | Total Simulated Flow    | — |
| Measured Rainfall                 | — | Fast Response Component | — |
|                                   |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy)          | — | Rapid Infiltration      | — |
| Pre-rehabilitation Simulated Flow | — |                         |   |

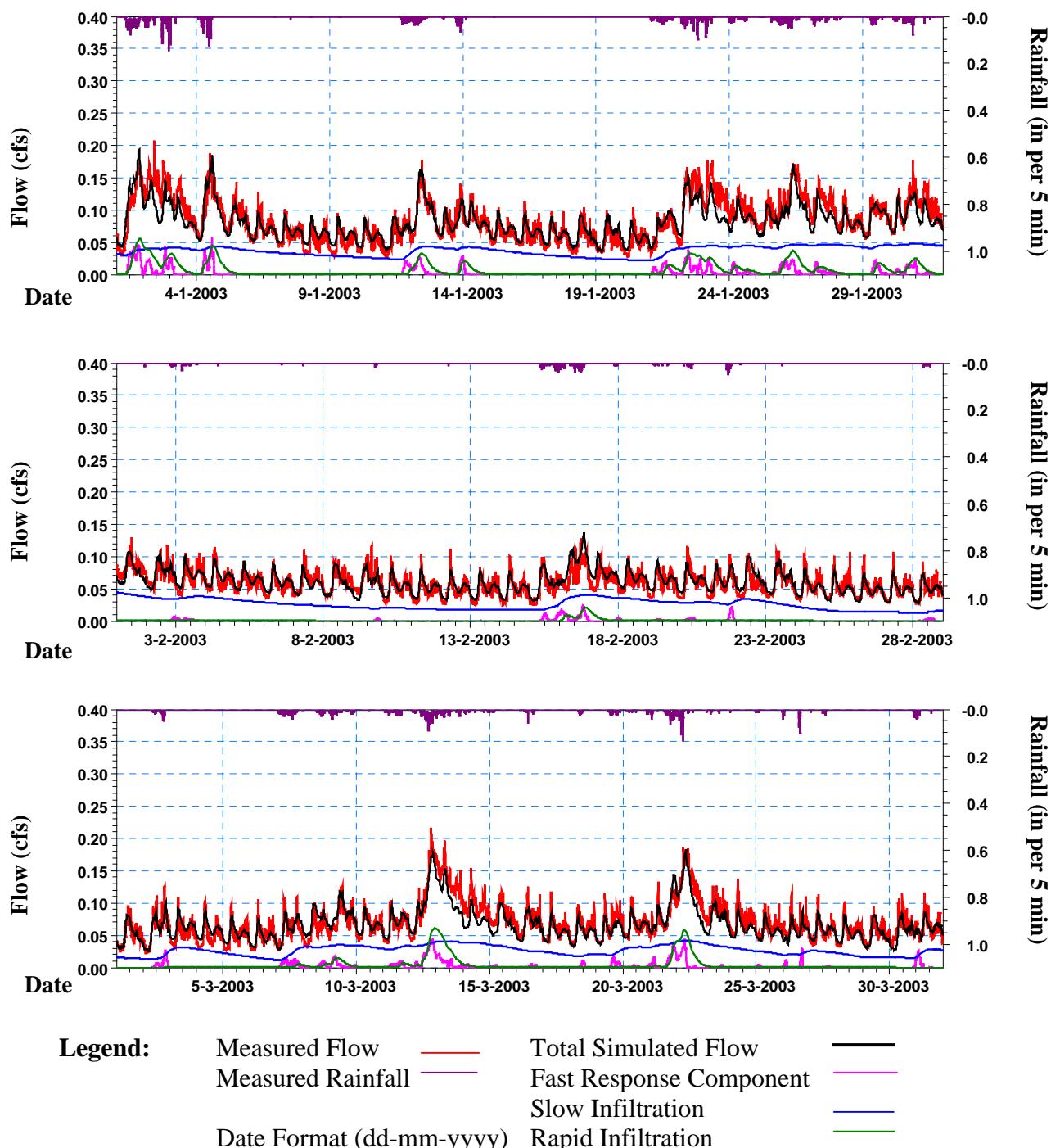


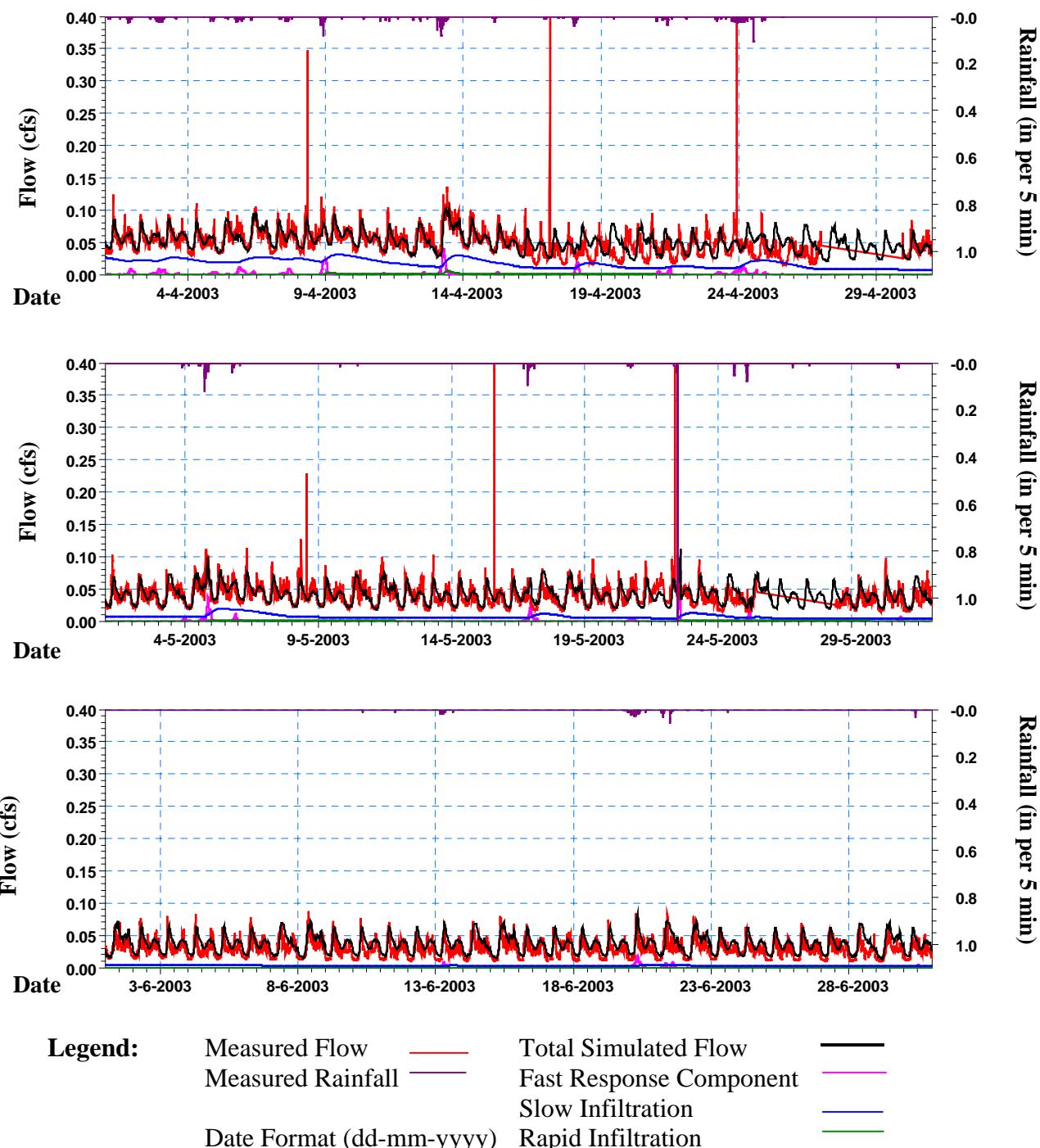
### Mercer Island Control Basin (2002-2003 Monitoring Period)

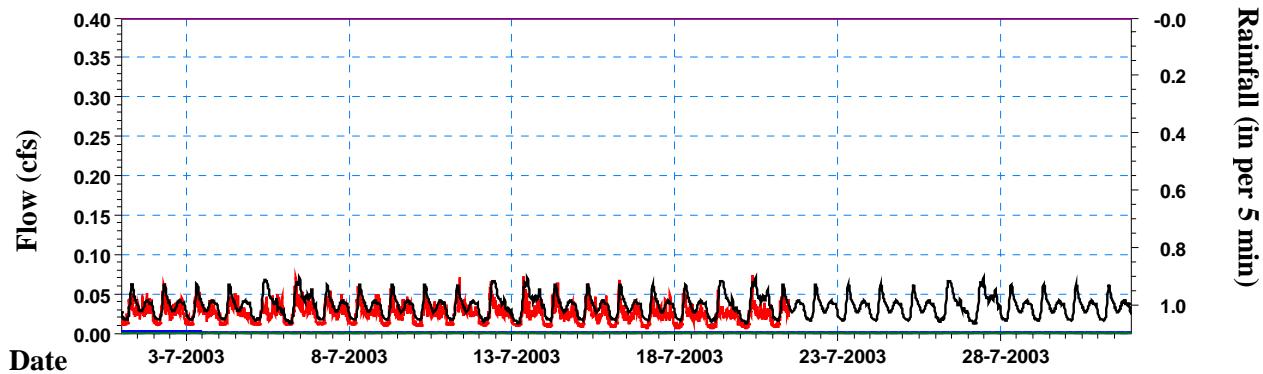


**Legend:**

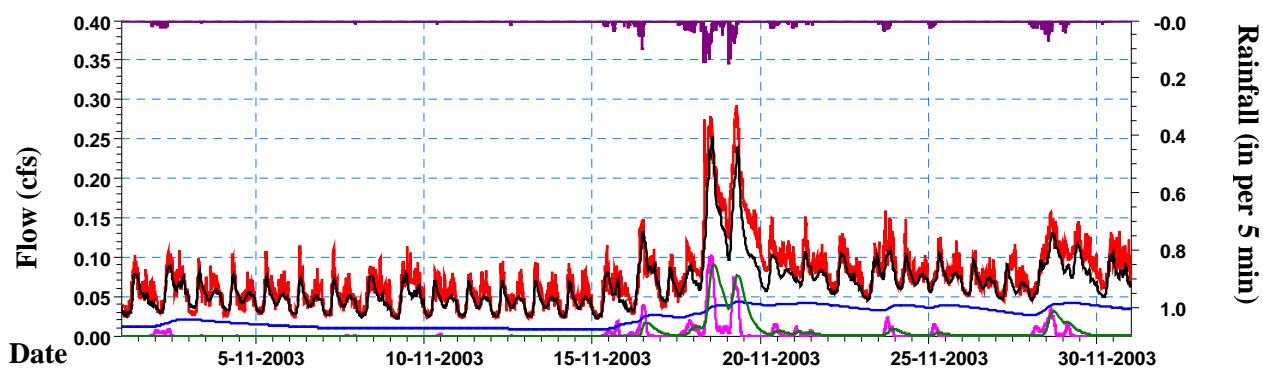
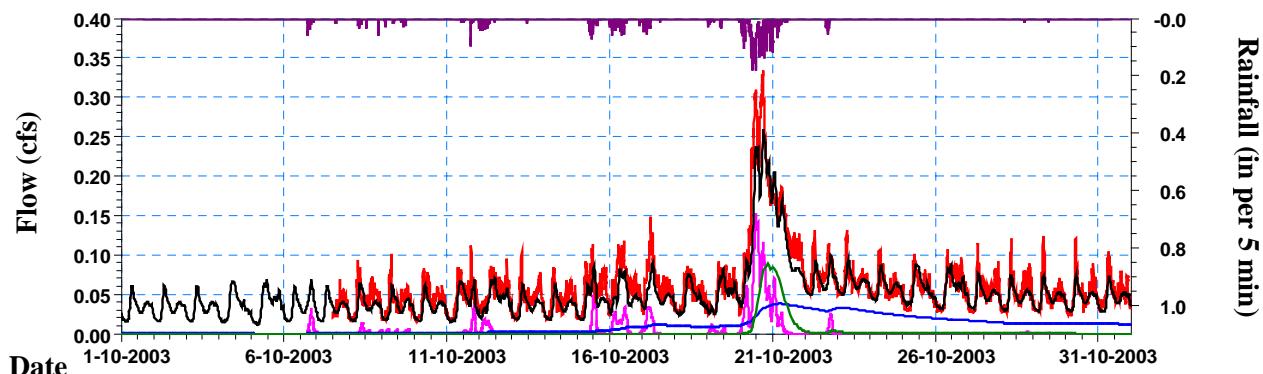
|                                   |   |                         |   |
|-----------------------------------|---|-------------------------|---|
| Measured Flow                     | — | Total Simulated Flow    | — |
| Measured Rainfall                 | — | Fast Response Component | — |
|                                   |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy)          | — | Rapid Infiltration      | — |
| Pre-rehabilitation Simulated Flow | — |                         |   |





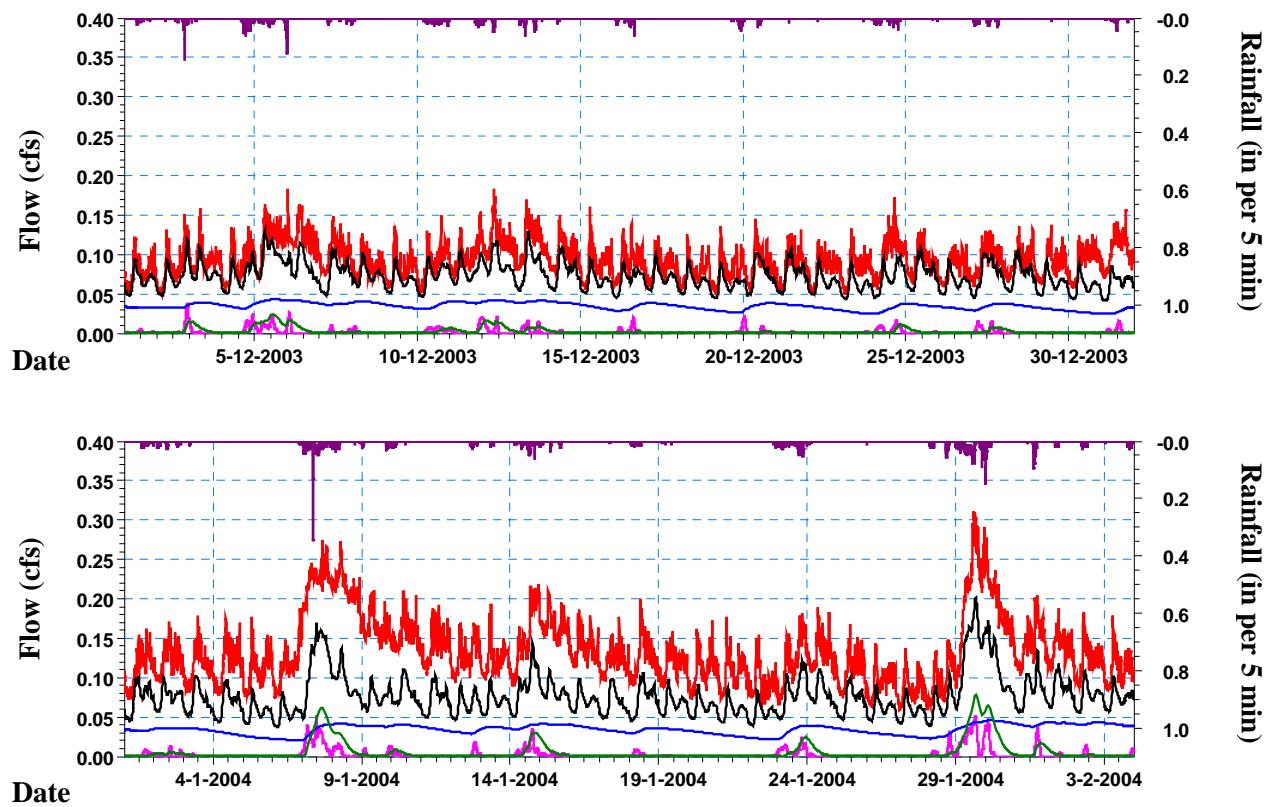


### Mercer Island Control Basin (2003-2004 Monitoring Period)

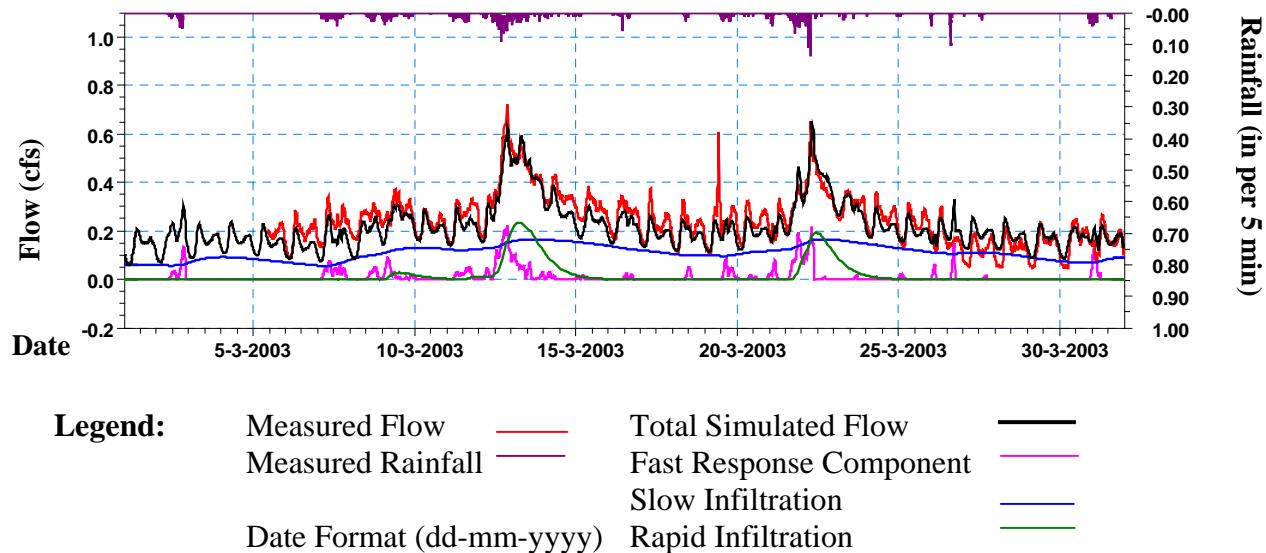


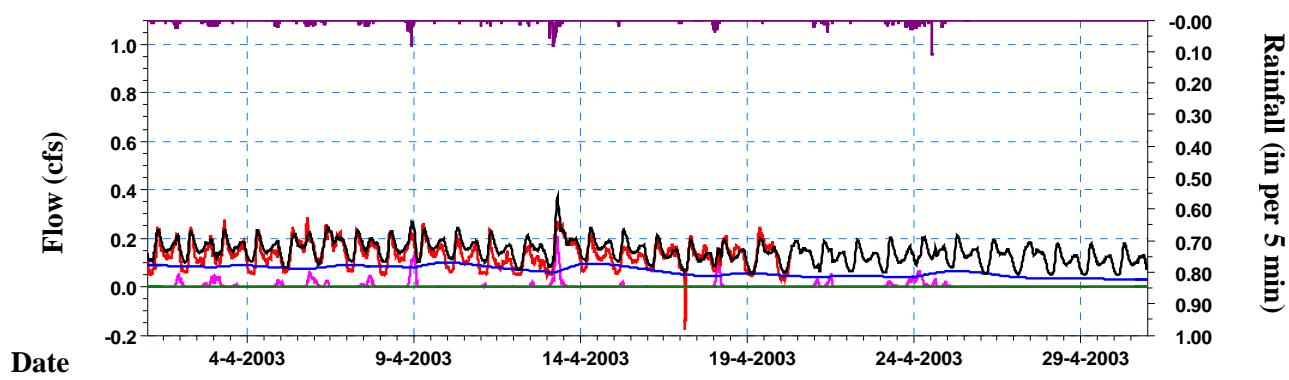
**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

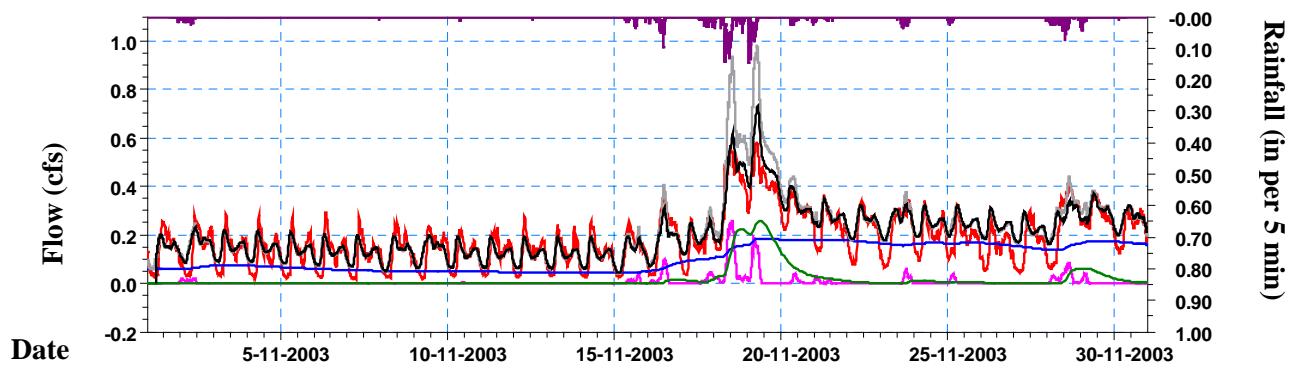
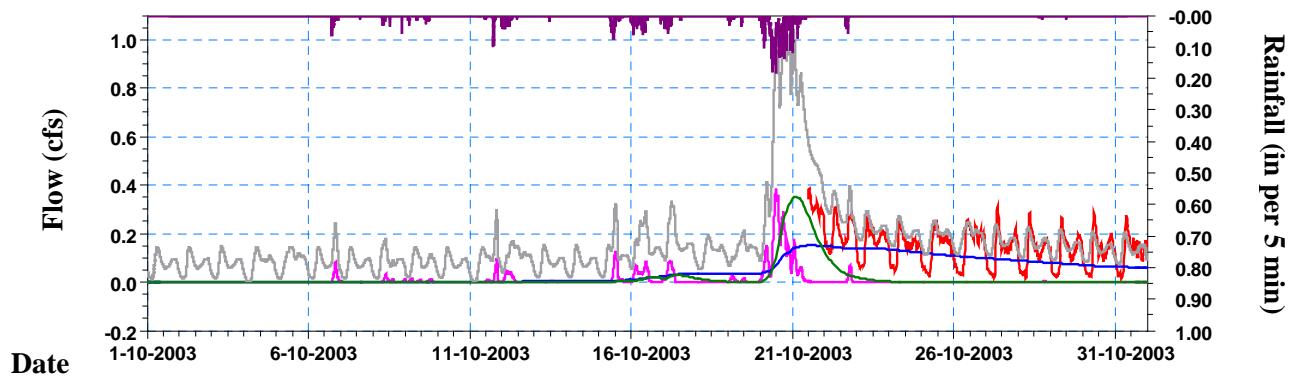


### Mercer Island Pilot Basin (2002-2003 Monitoring Period)



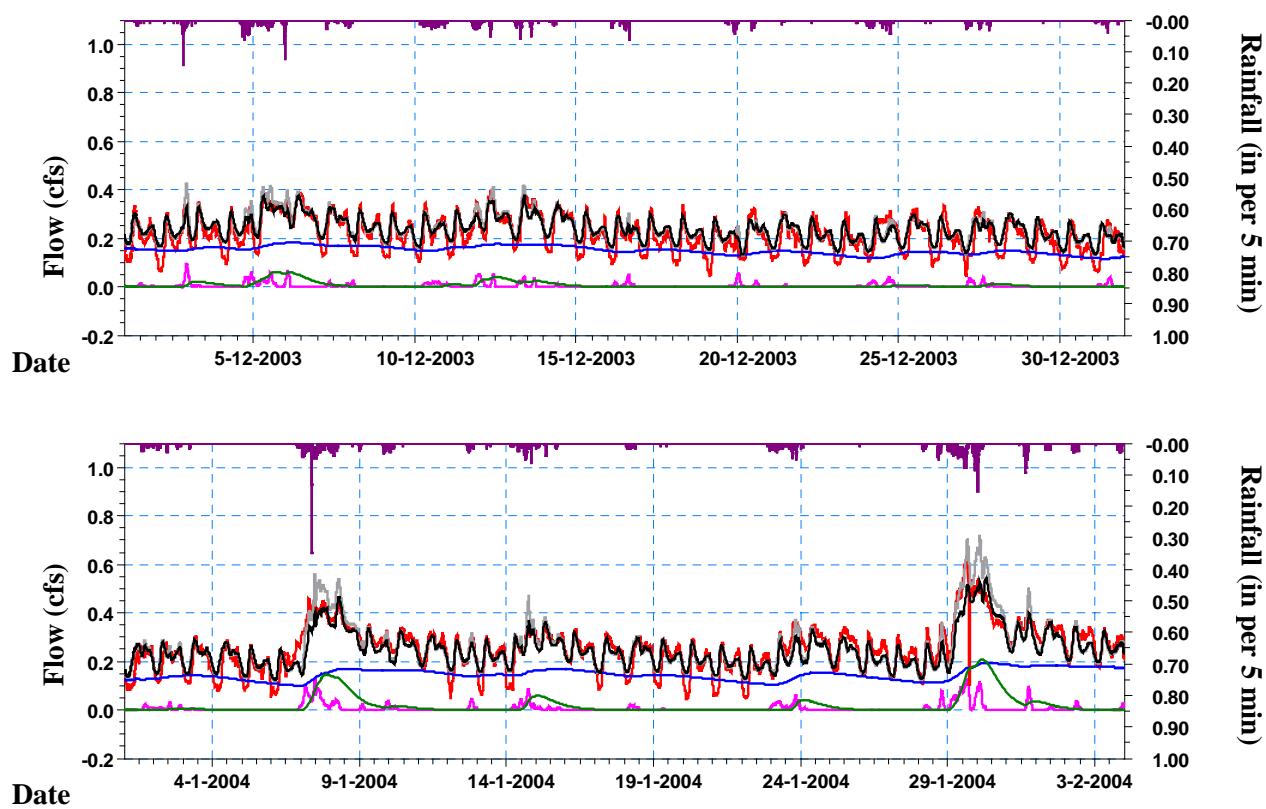


### Mercer Island Pilot Basin (2003-2004 Monitoring Period)

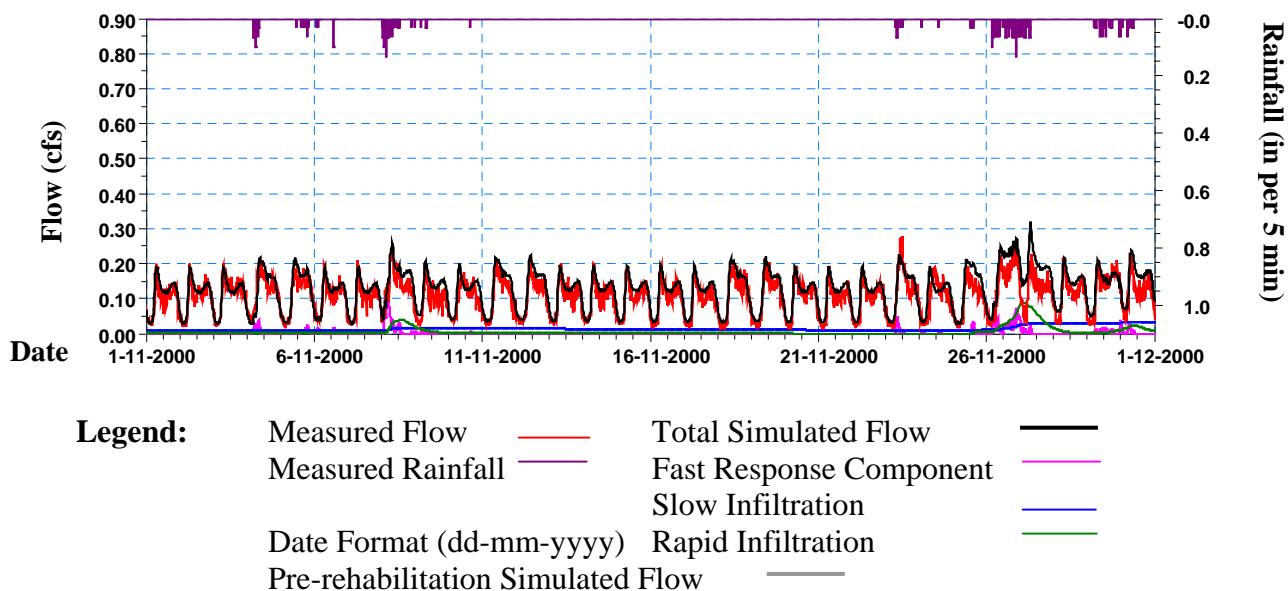


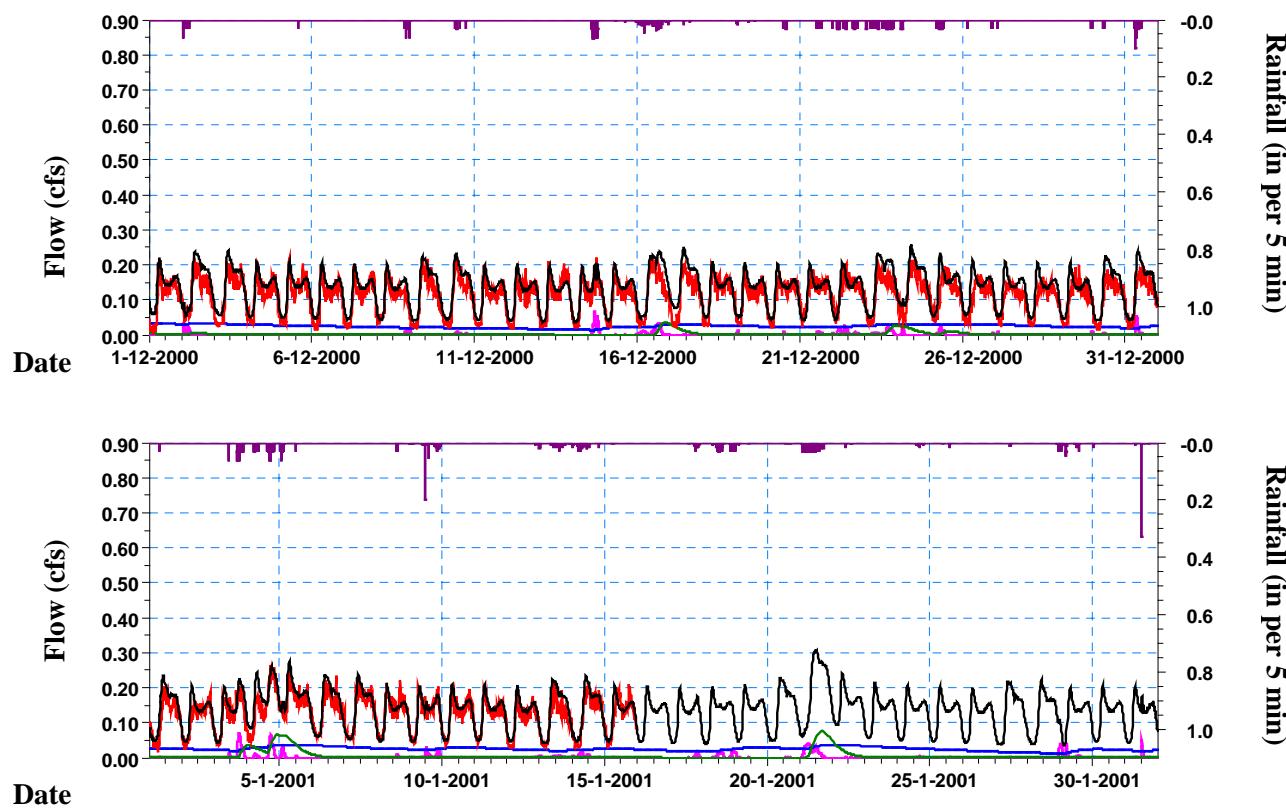
**Legend:**

- Measured Flow ——— (Red line)
- Measured Rainfall ——— (Purple line)
- Total Simulated Flow ——— (Black line)
- Fast Response Component ——— (Magenta line)
- Slow Infiltration ——— (Blue line)
- Rapid Infiltration ——— (Green line)
- Date Format (dd-mm-yyyy) ——— (Grey line)
- Pre-rehabilitation Simulated Flow ——— (Grey line)

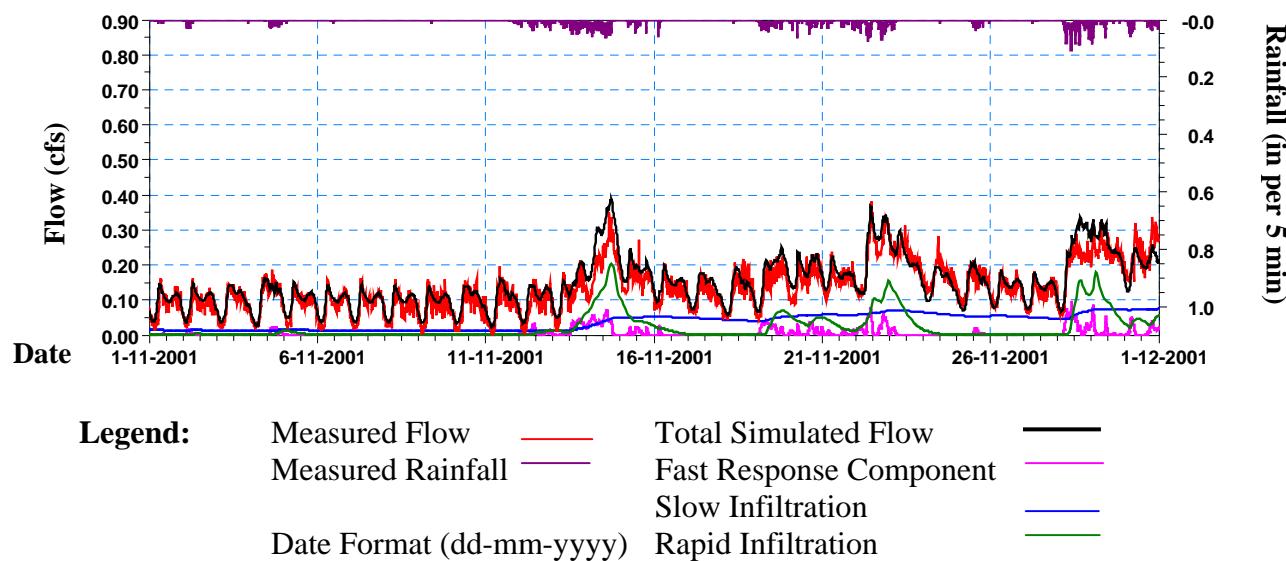


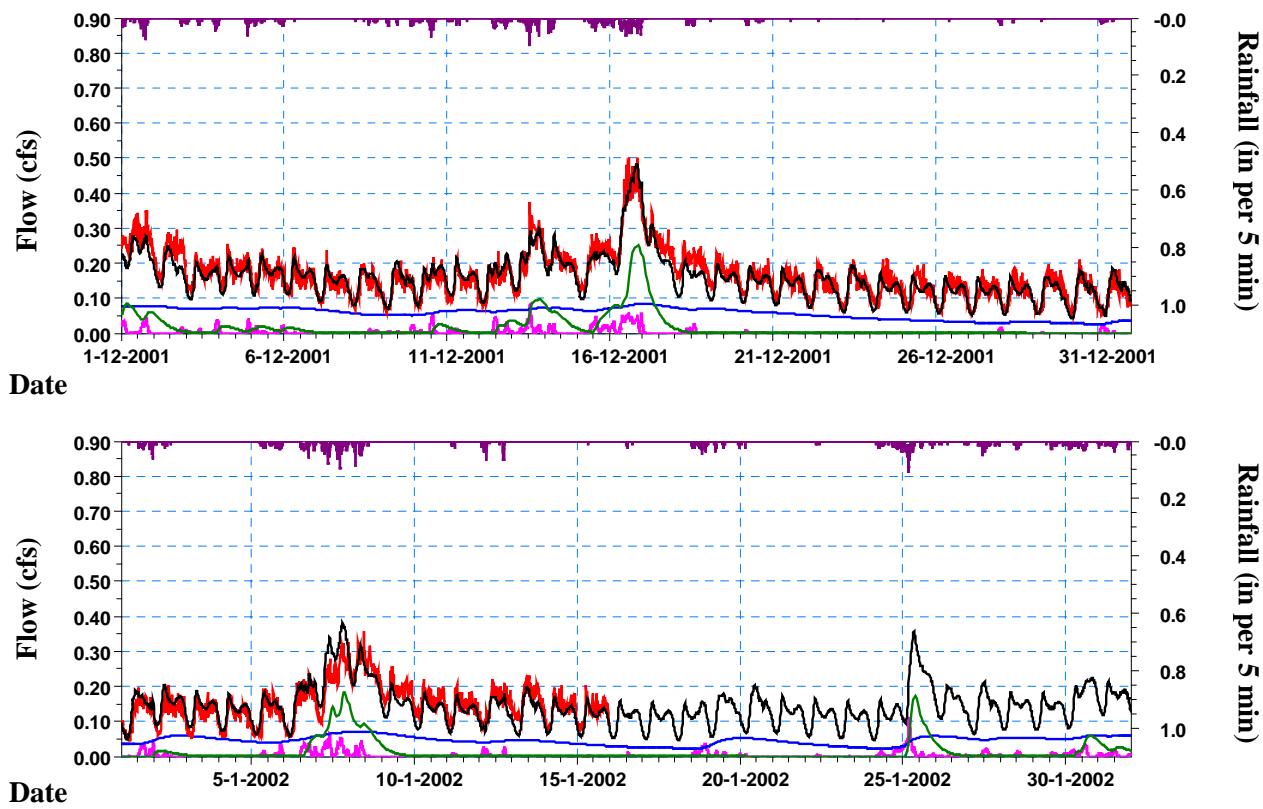
### Northshore Control Basin (2000-2001 Monitoring Period)



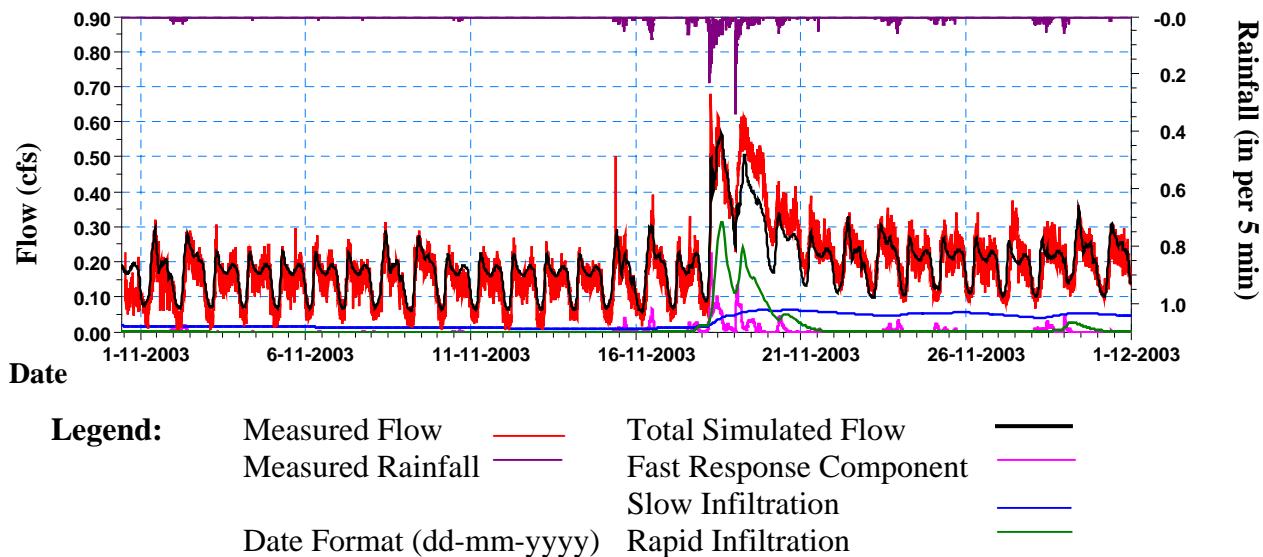


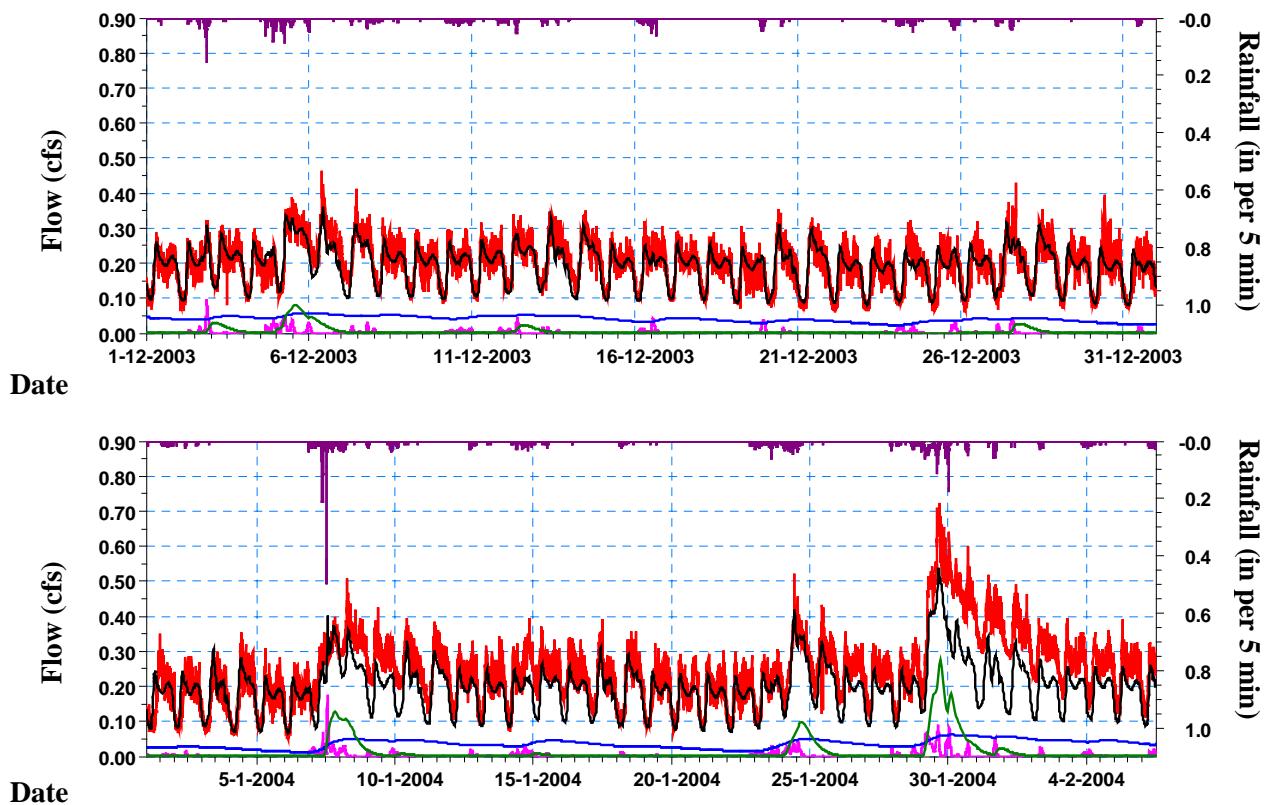
#### Northshore Control Basin (2001-2002 Monitoring Period)



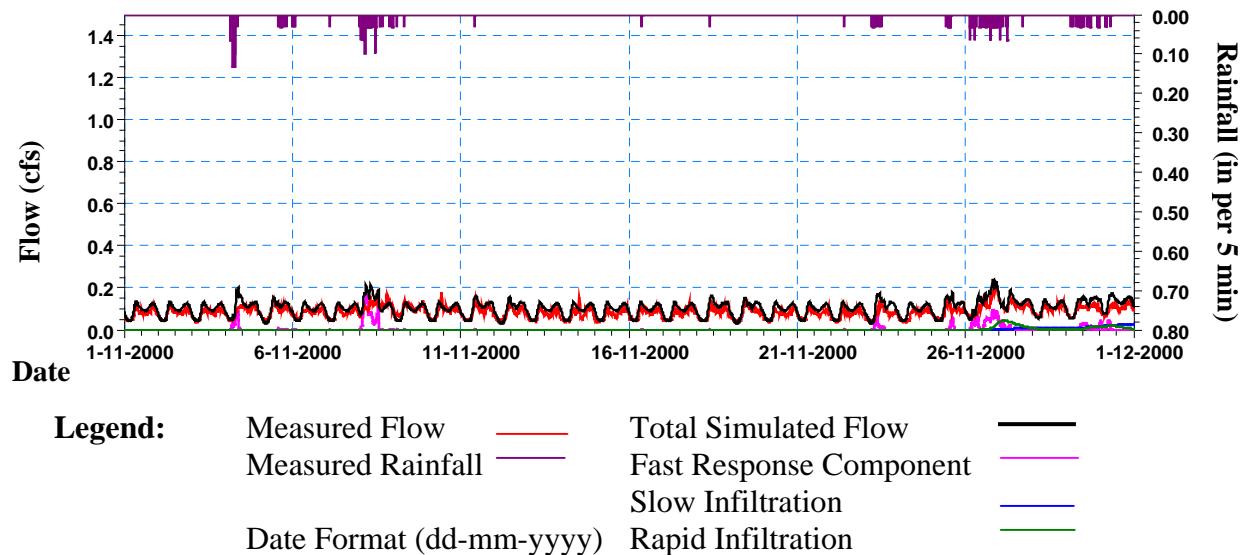


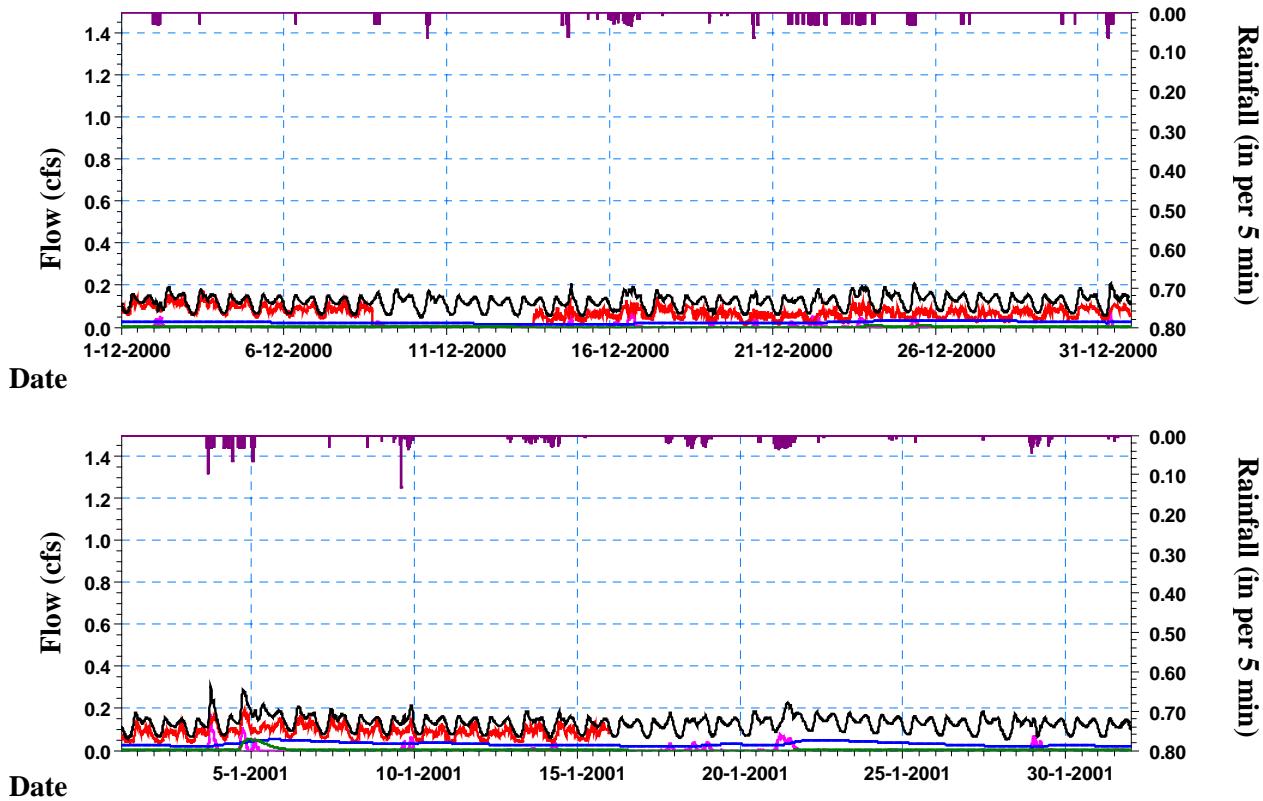
#### Northshore Control Basin (2003-2004 Monitoring Period)



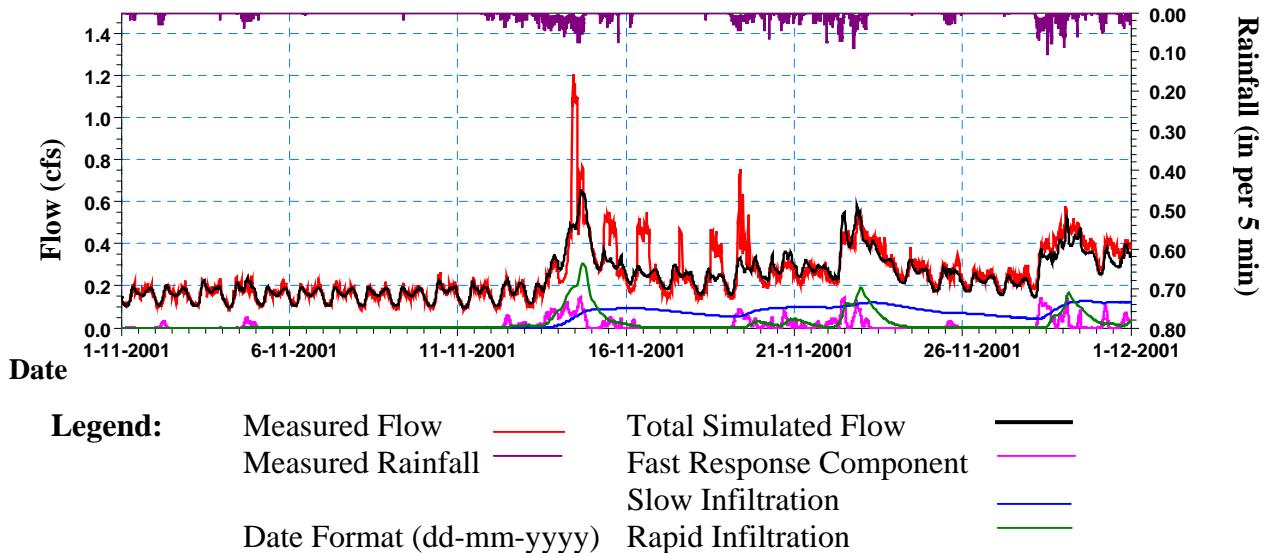


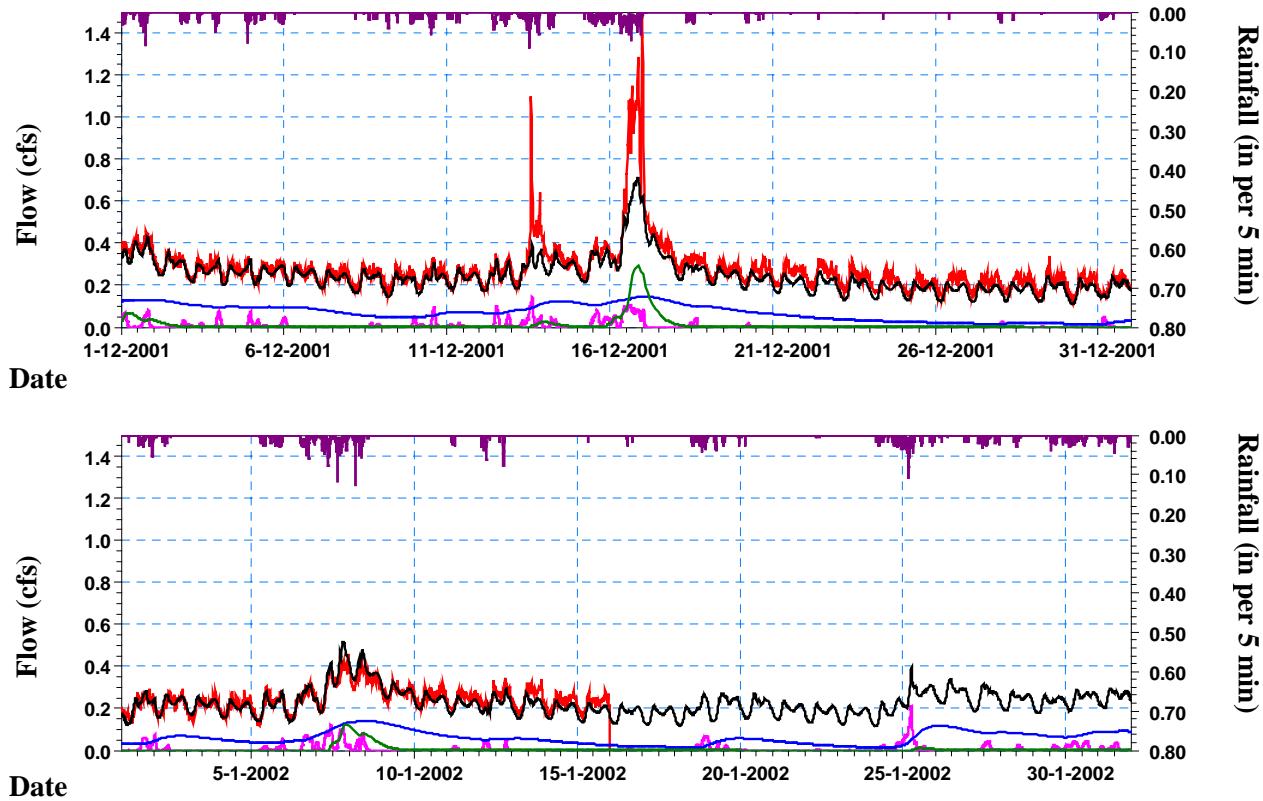
### Northshore Pilot Basin (2000-2001 Monitoring Period)



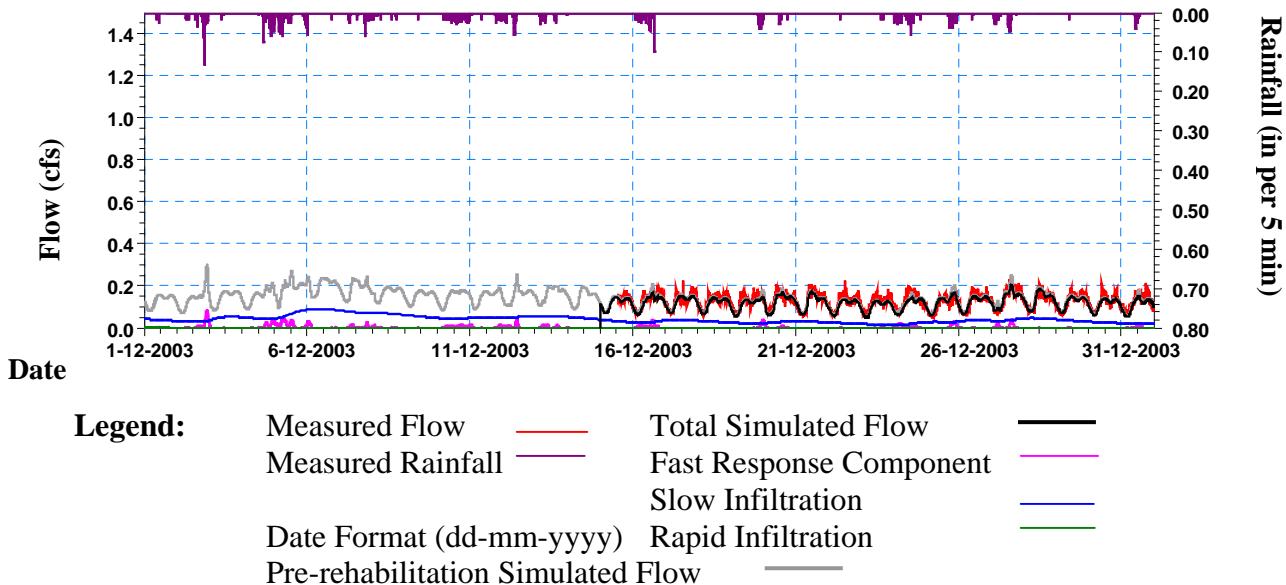


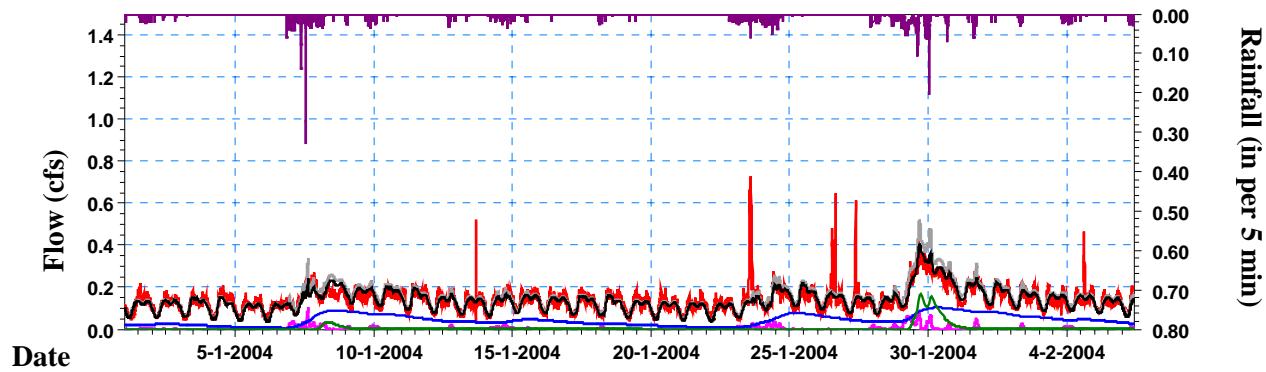
### Northshore Pilot Basin (2001-2002 Monitoring Period)



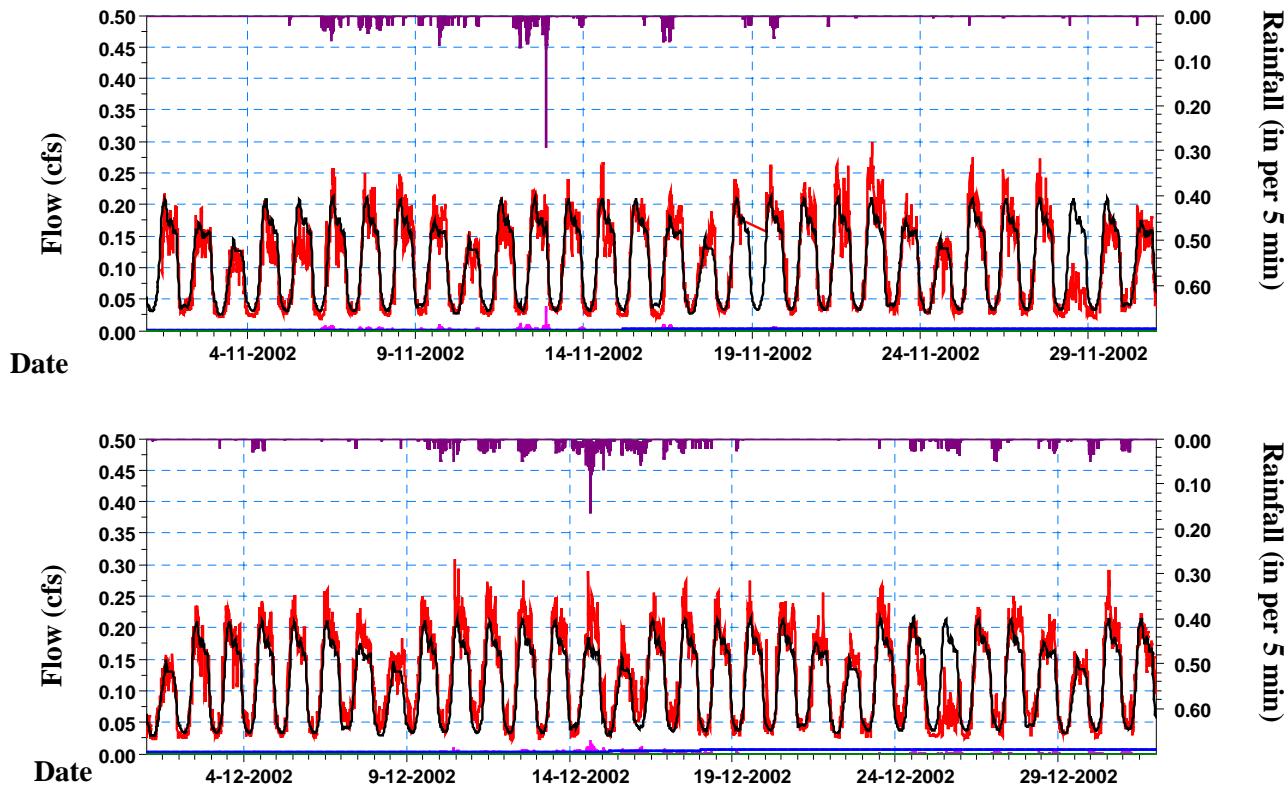


### Northshore Pilot Basin (2003-2004 Monitoring Period)



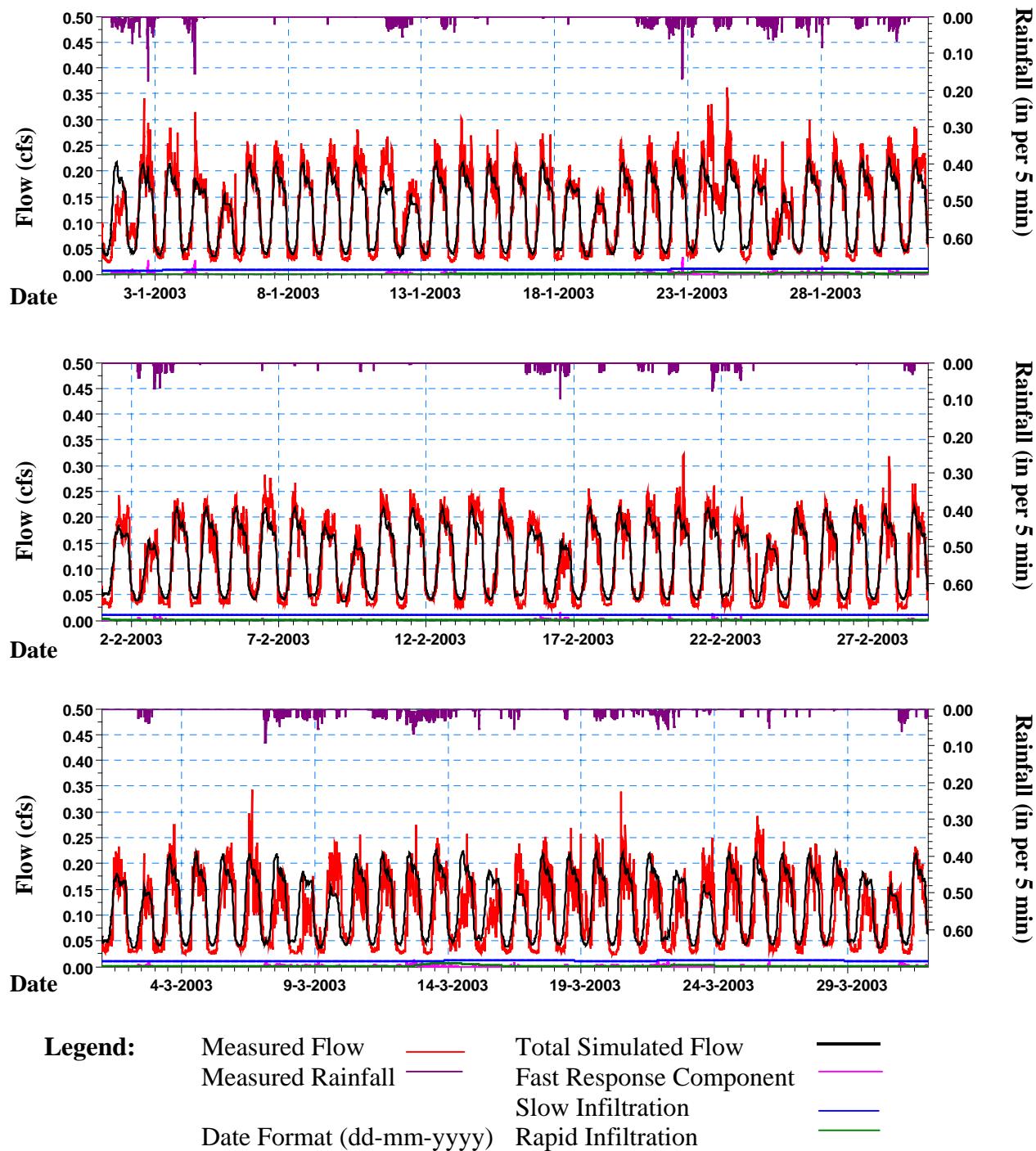


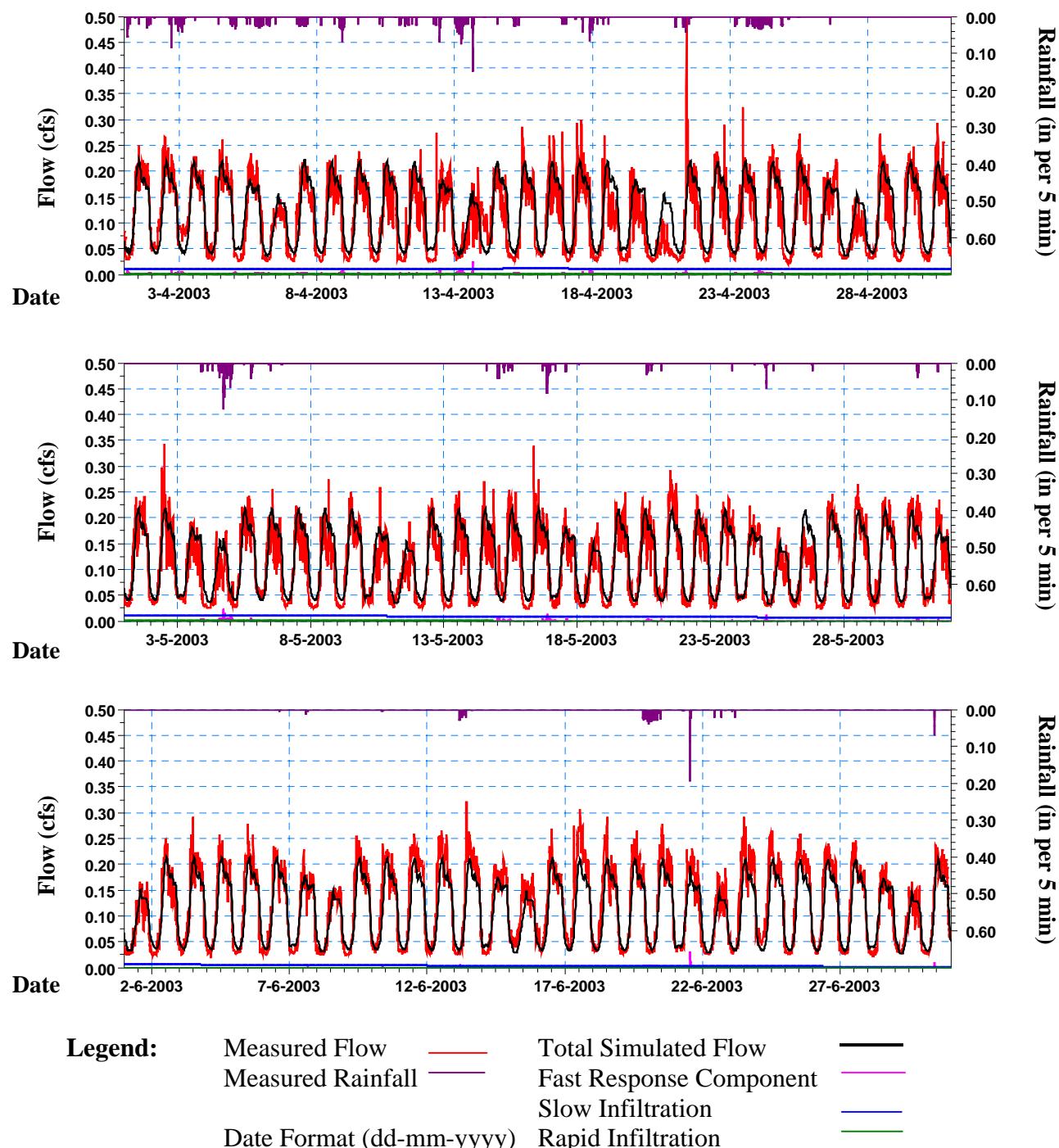
### Redmond Control Basin (2002-2003 Monitoring Period)

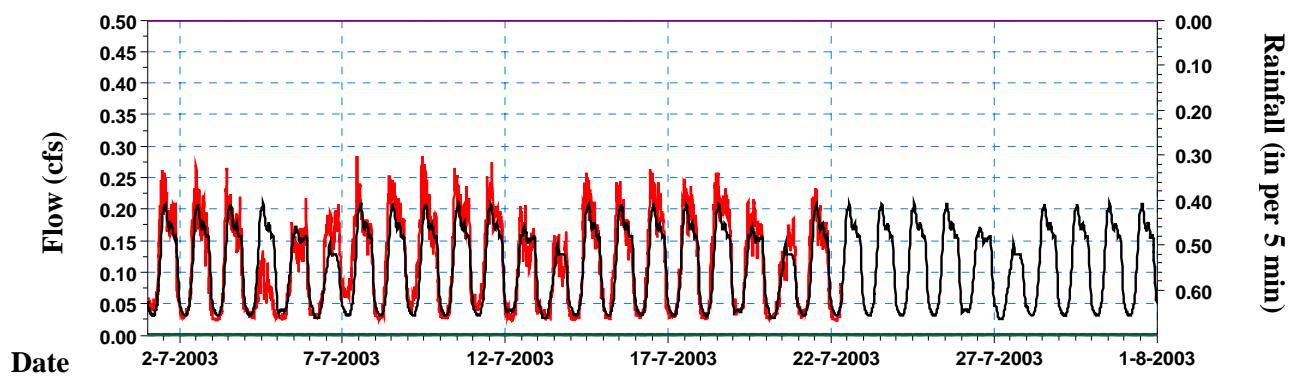


**Legend:**

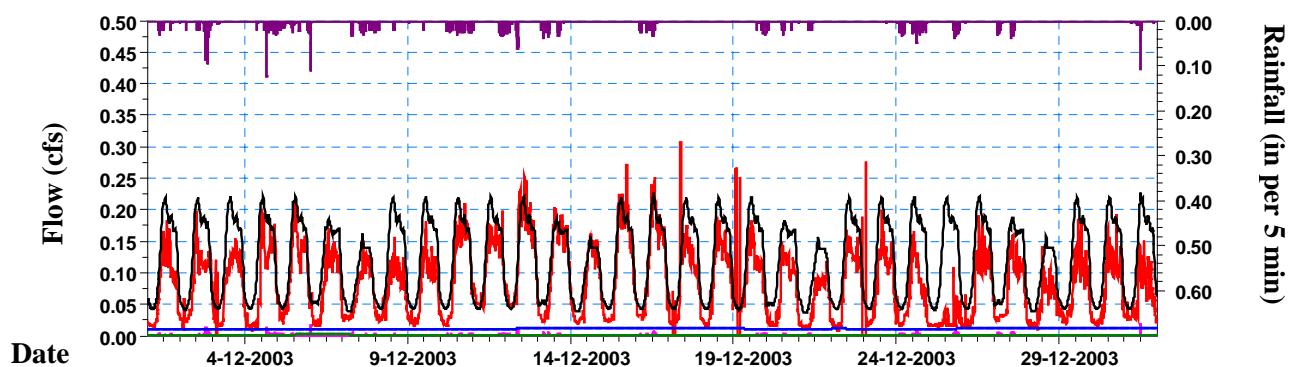
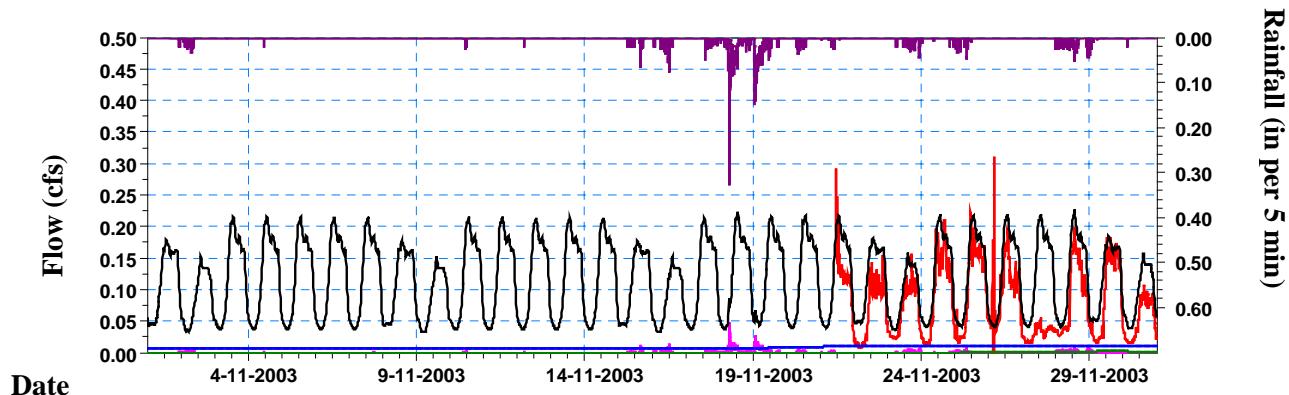
- Measured Flow ——————
- Measured Rainfall ——————
- Total Simulated Flow ——————
- Fast Response Component ——————
- Slow Infiltration ——————
- Rapid Infiltration ——————
- Date Format (dd-mm-yyyy) ——————
- Pre-rehabilitation Simulated Flow ——————





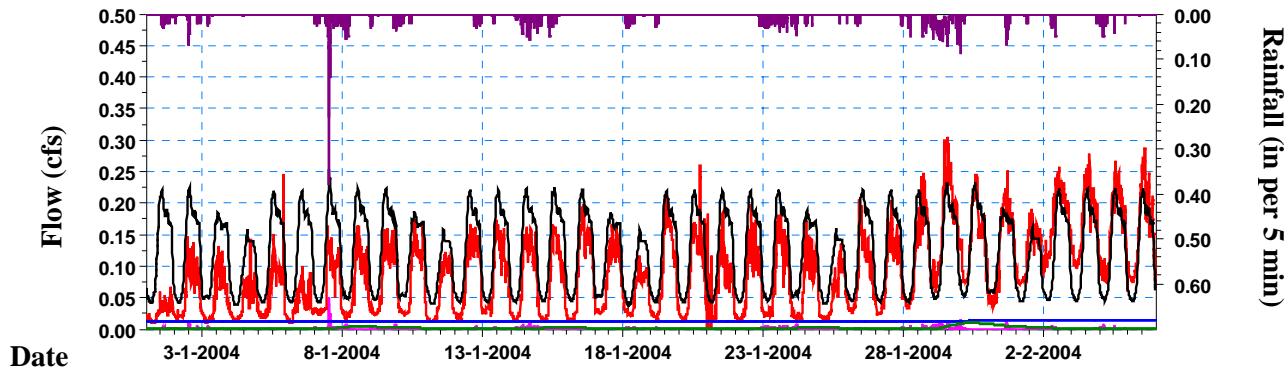


### Redmond Control Basin (2003-2004 Monitoring Period)

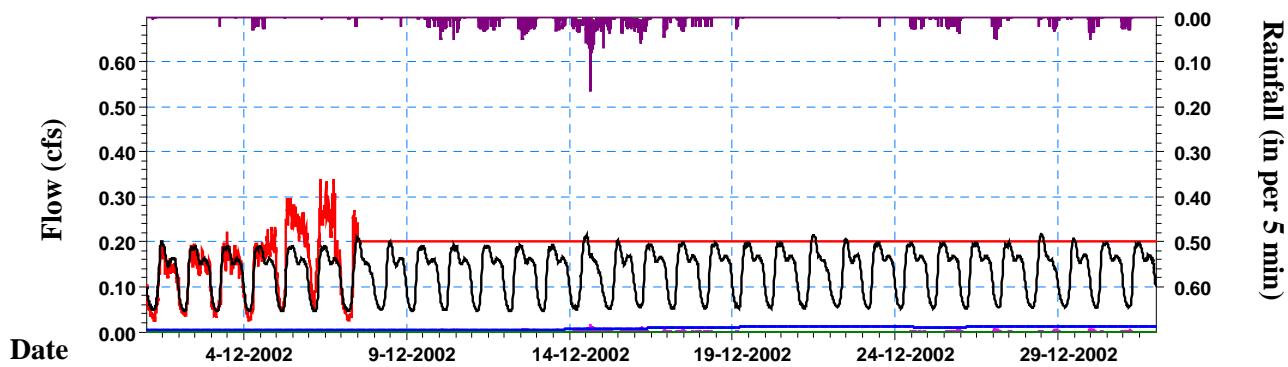
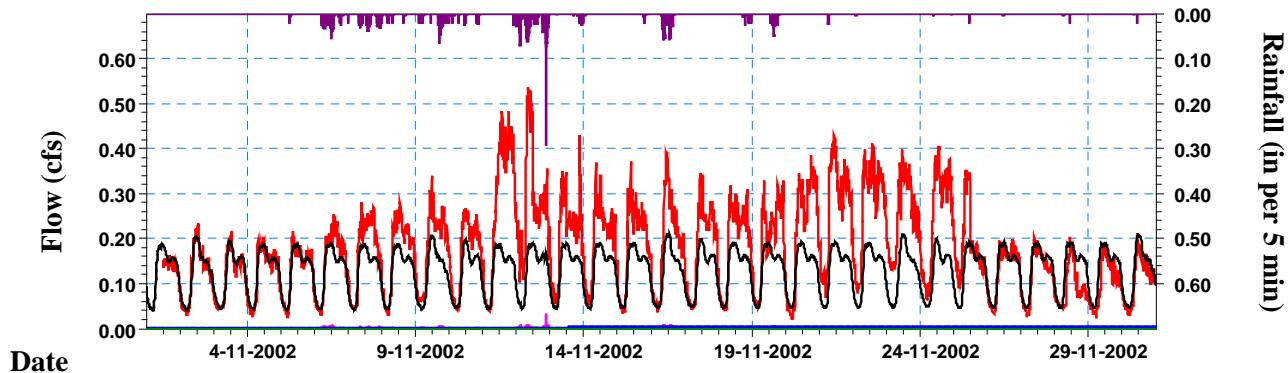


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

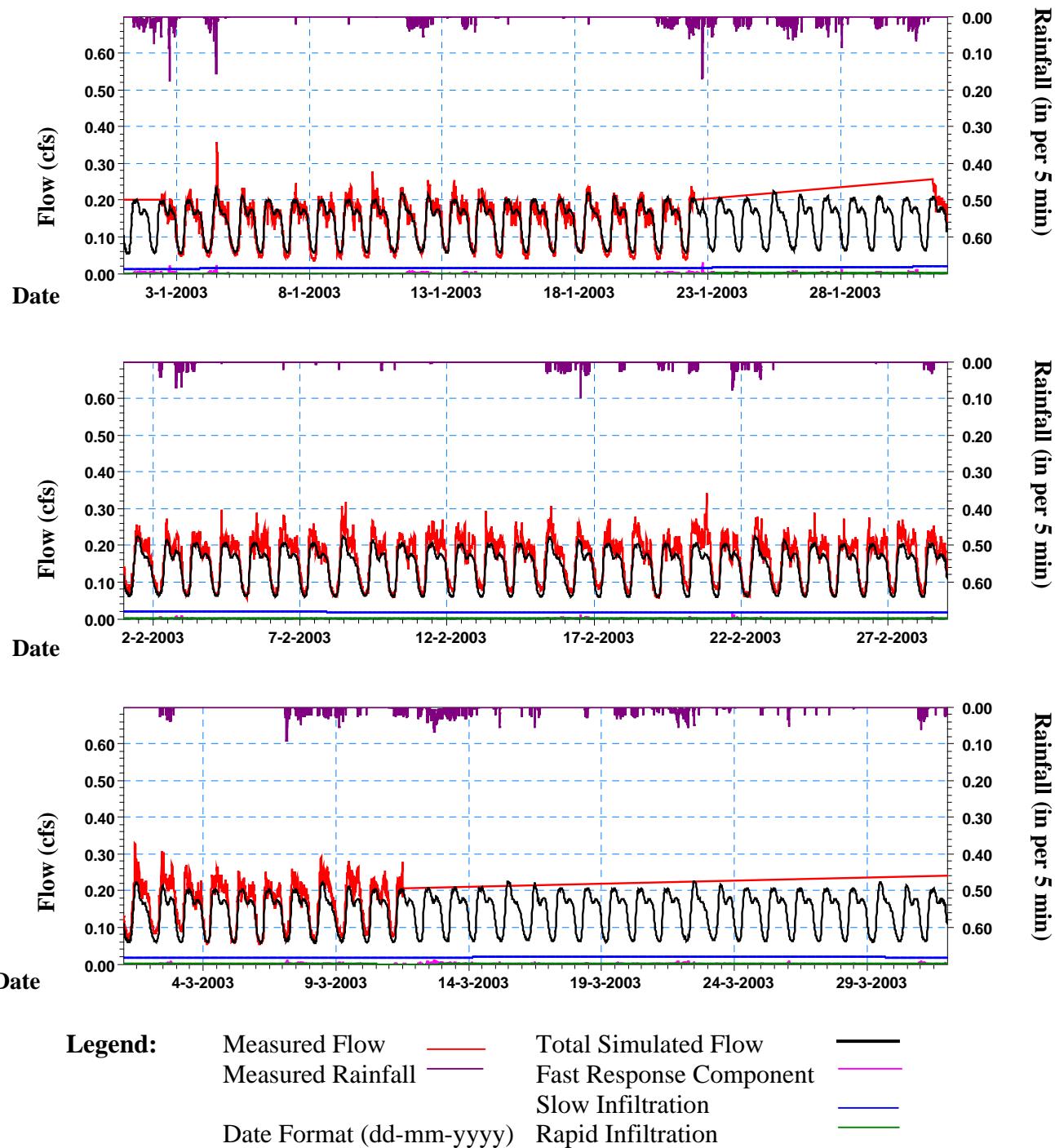


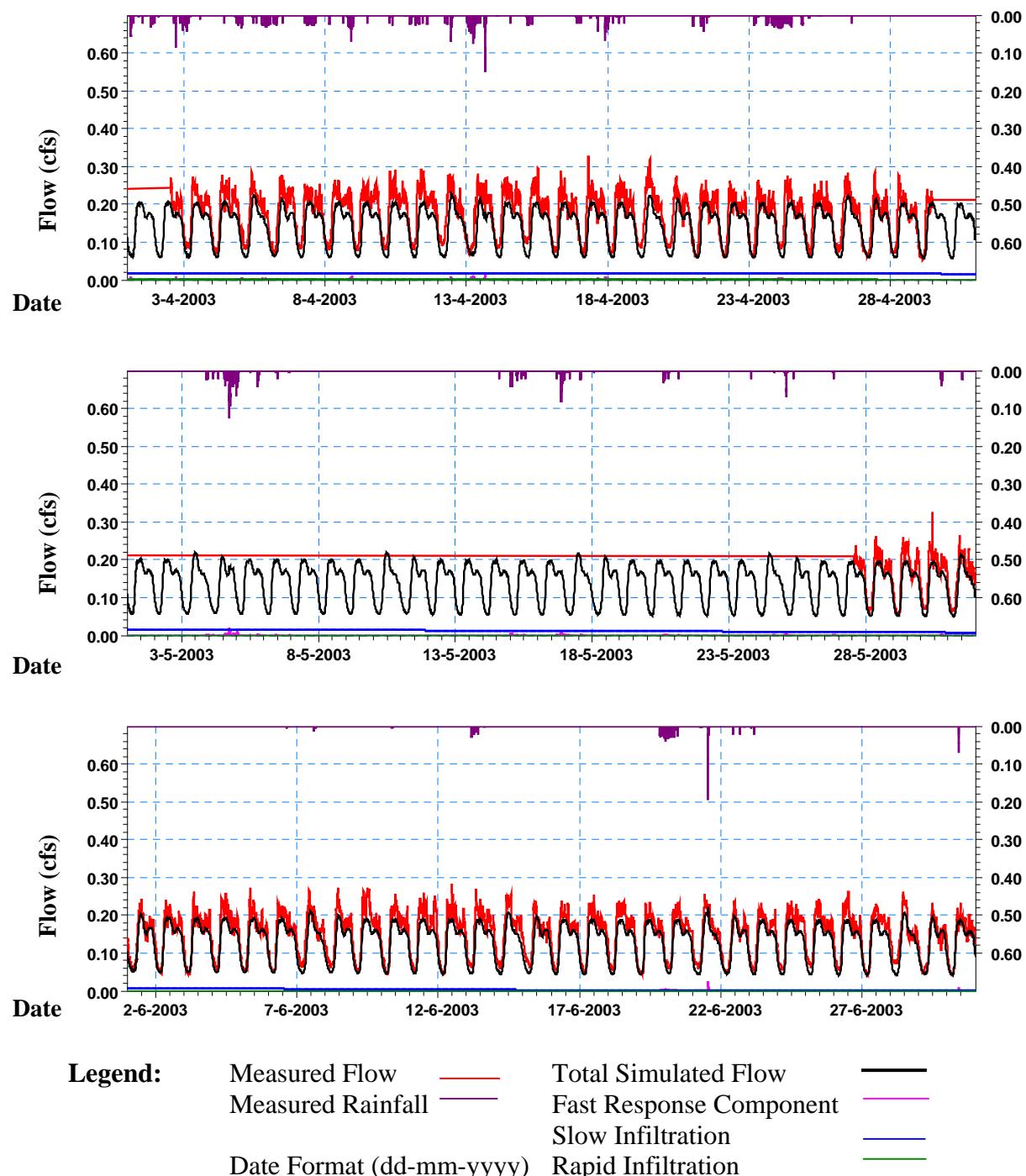
**Redmond Pilot A Basin (2002-2003 Monitoring Period)**

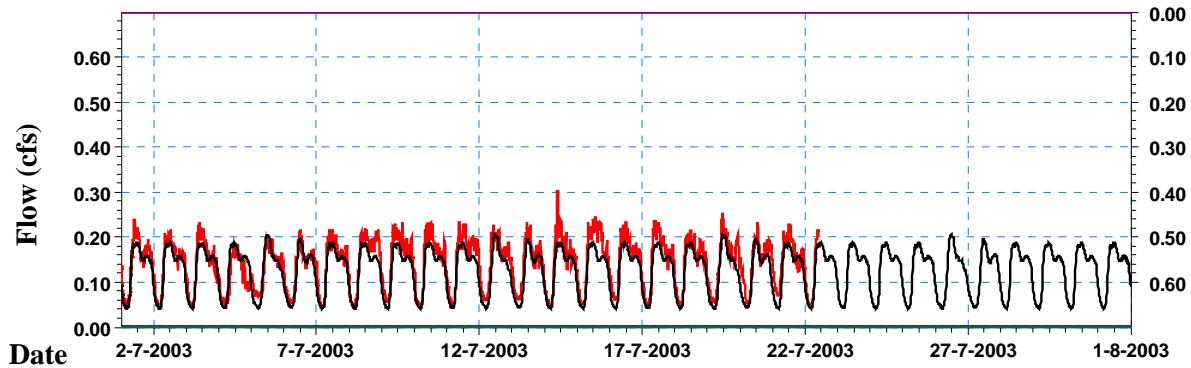


**Legend:**

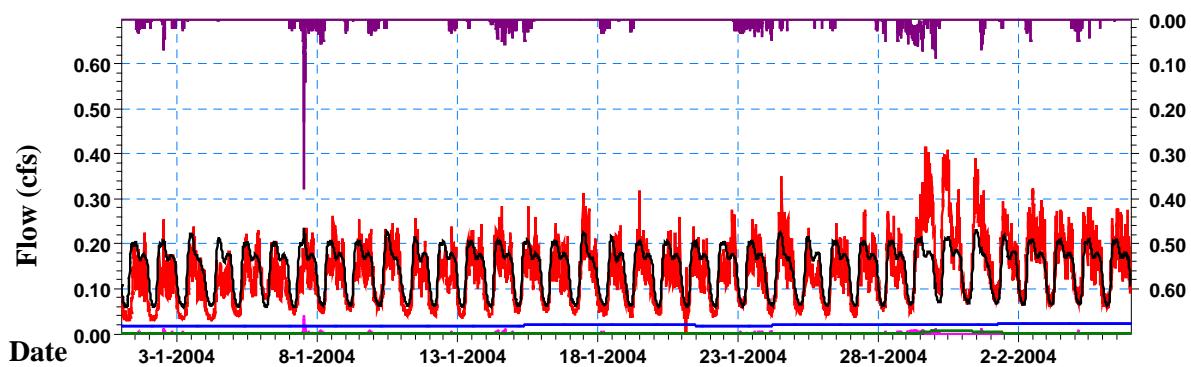
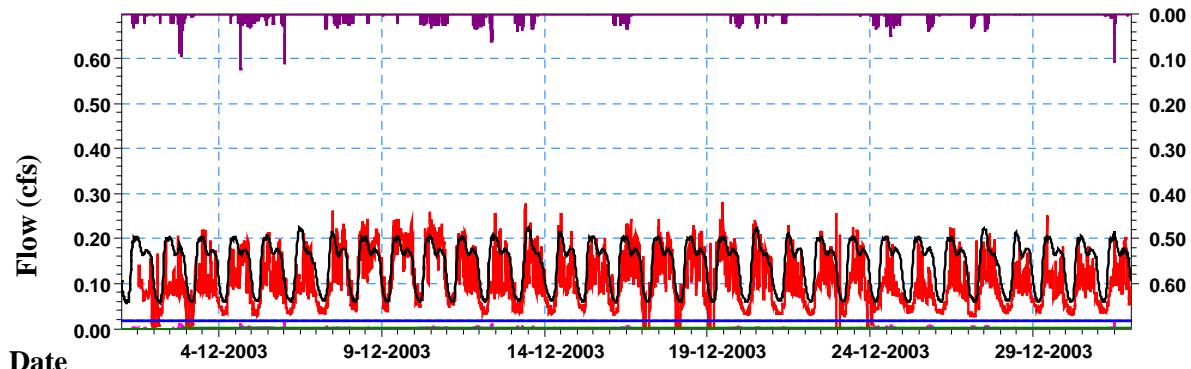
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |







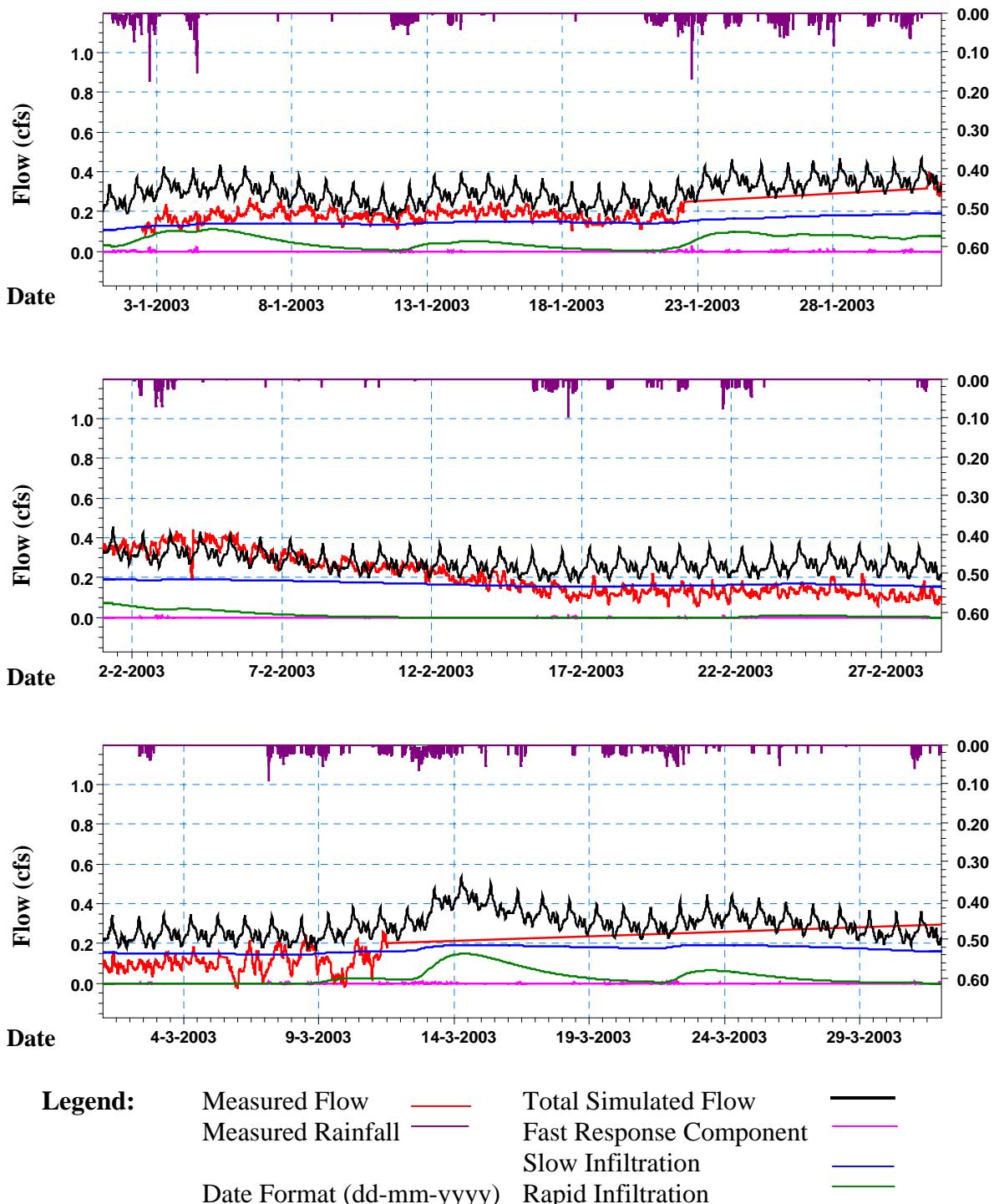
**Redmond Pilot A Basin (2003-2004 Monitoring Period)**

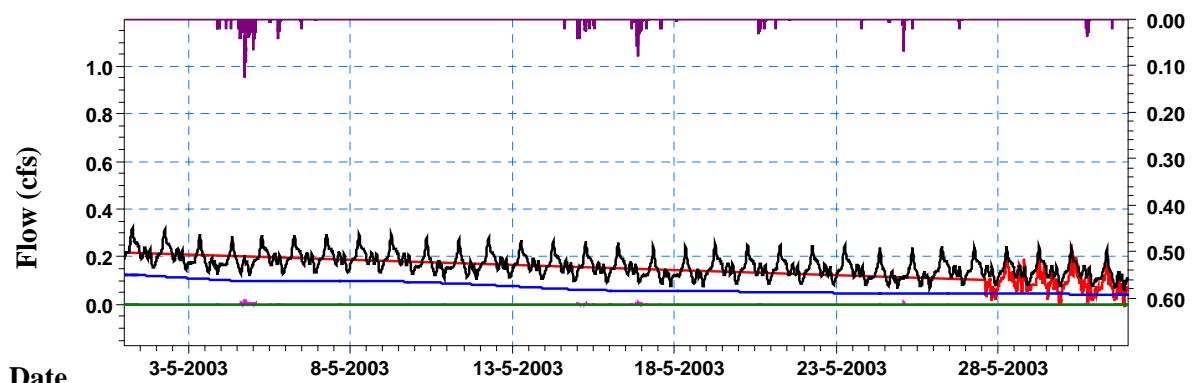
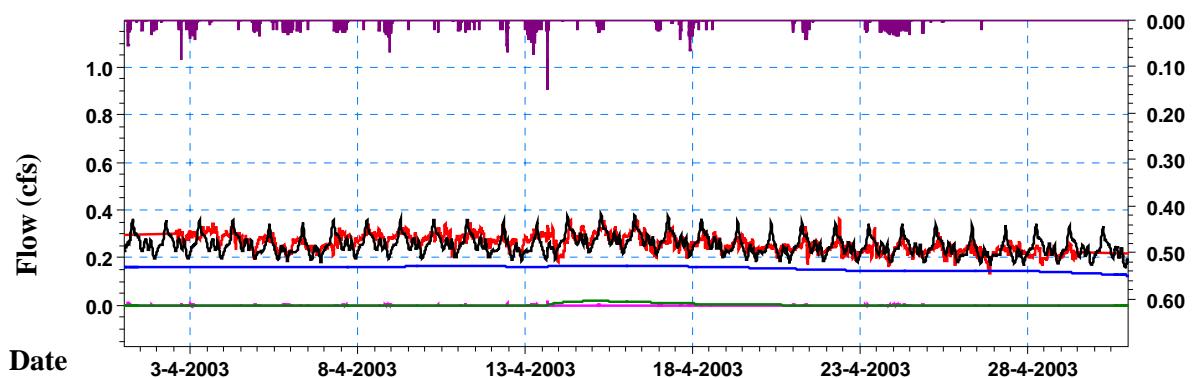


**Legend:**

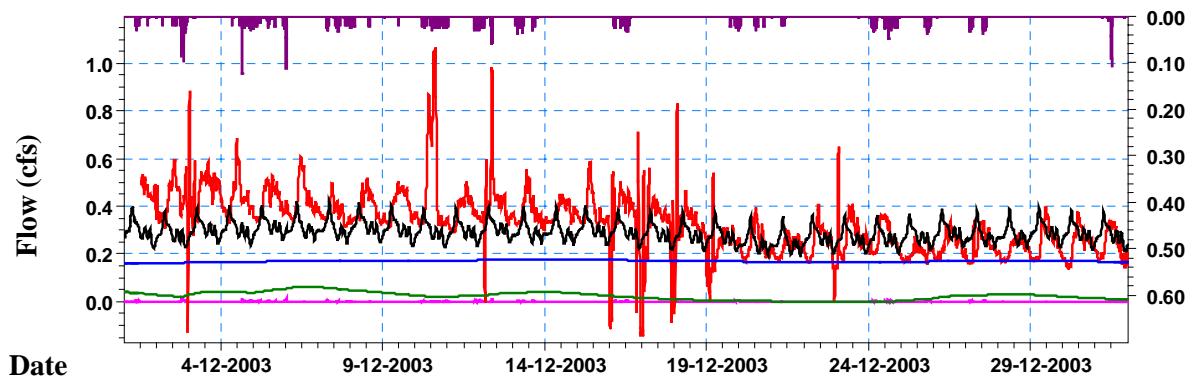
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

## Redmond Pilot B Basin (2002-2003 Monitoring Period)

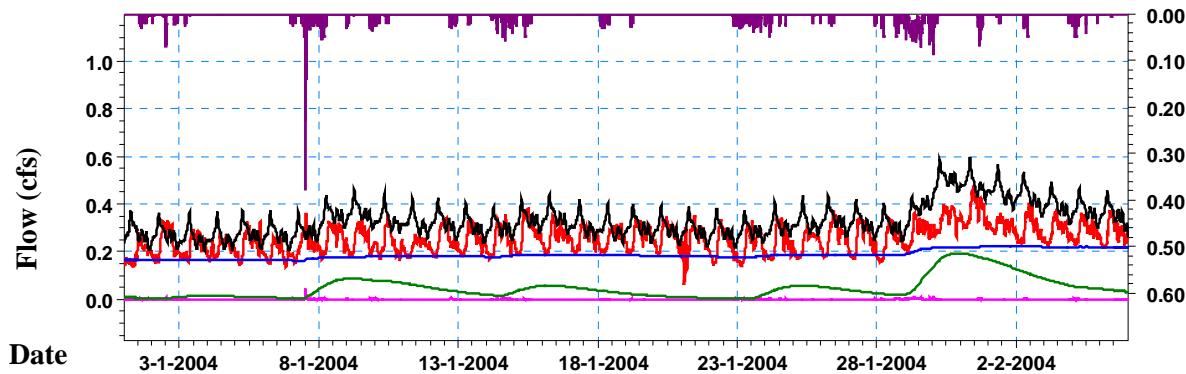




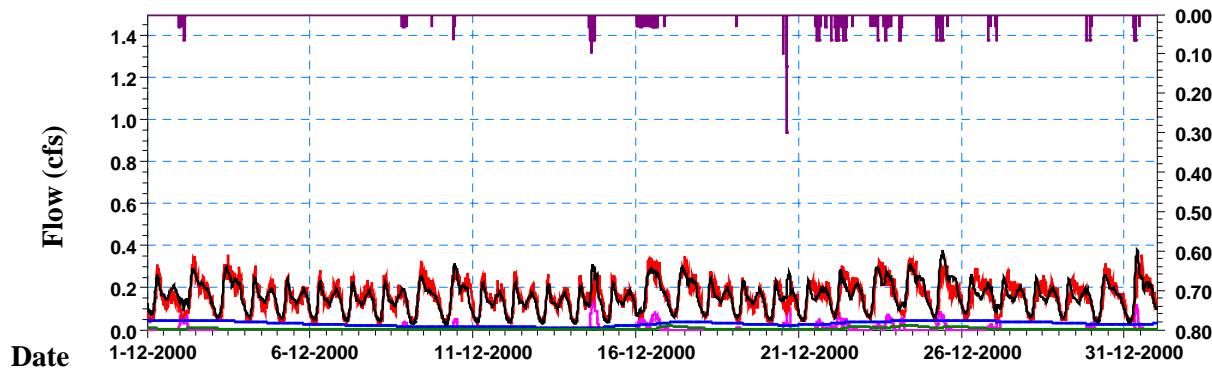
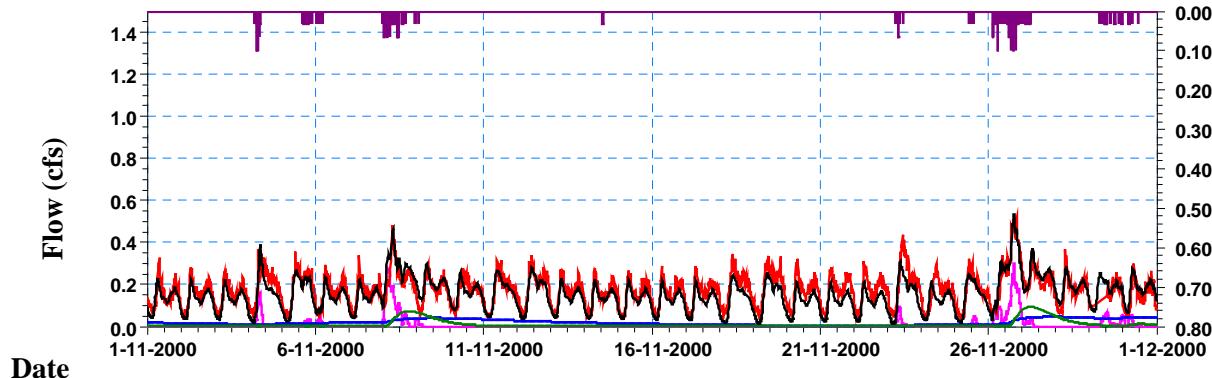
### Redmond Pilot B Basin (2003-2004 Monitoring Period)



|                |                          |   |                         |   |
|----------------|--------------------------|---|-------------------------|---|
| <b>Legend:</b> | Measured Flow            | — | Total Simulated Flow    | — |
|                | Measured Rainfall        | — | Fast Response Component | — |
|                |                          |   | Slow Infiltration       | — |
|                |                          |   | Rapid Infiltration      | — |
|                | Date Format (dd-mm-yyyy) |   |                         |   |

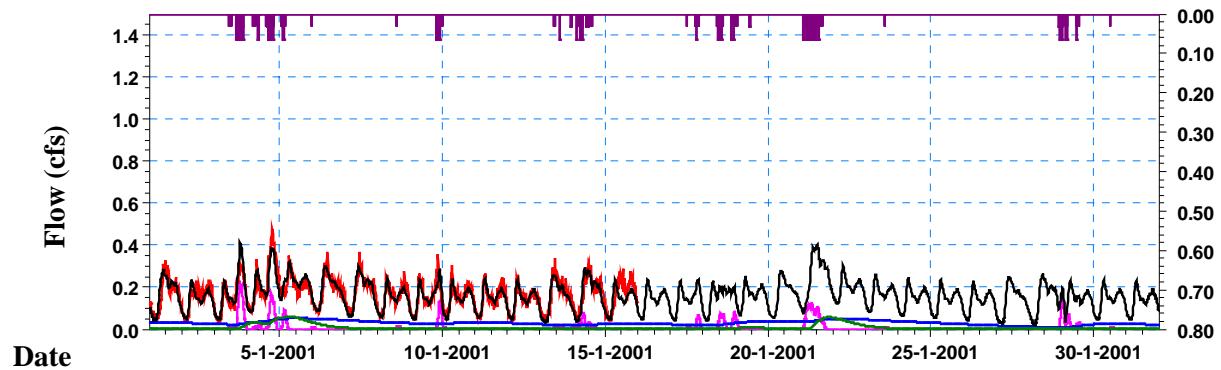


**Ronald Control Basin (2000-2001 Monitoring Period)**

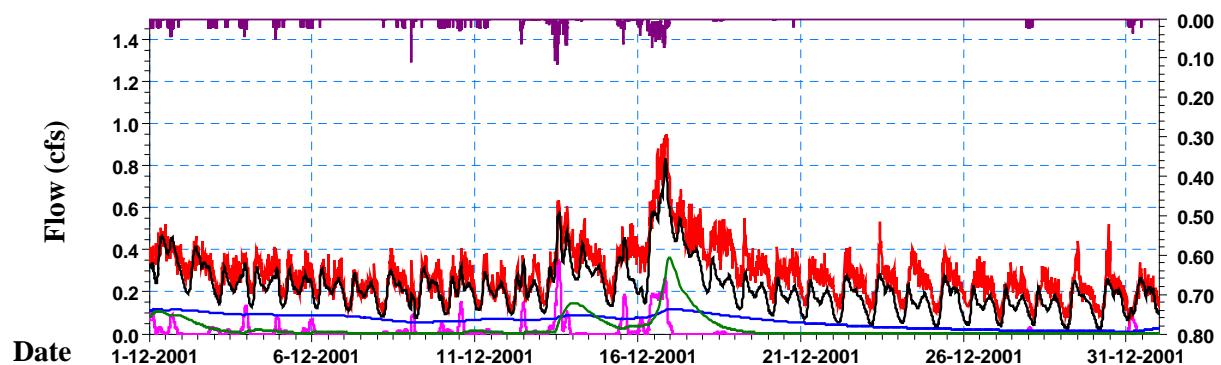
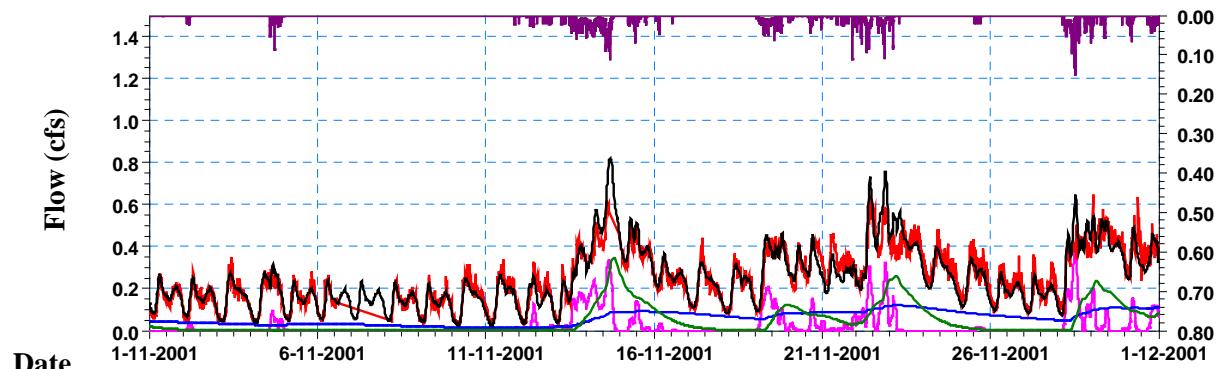


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

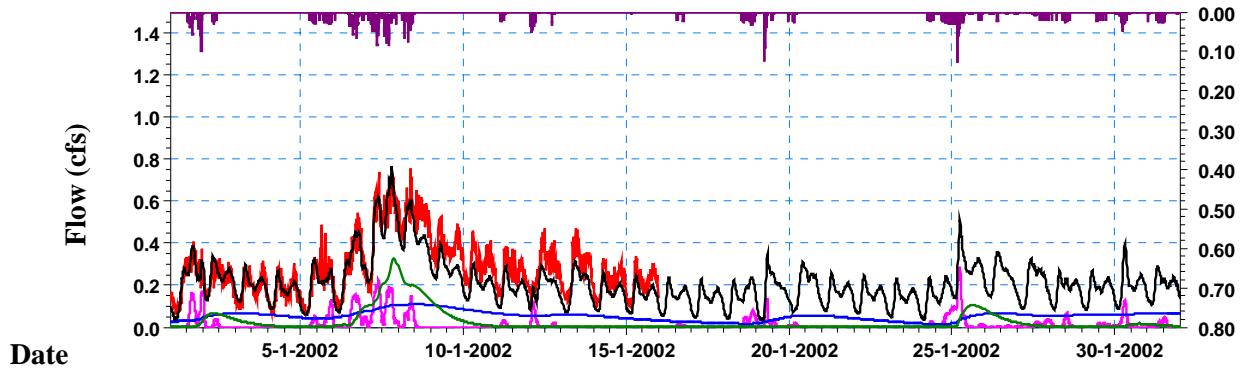


### Ronald Control Basin (2001-2002 Monitoring Period)

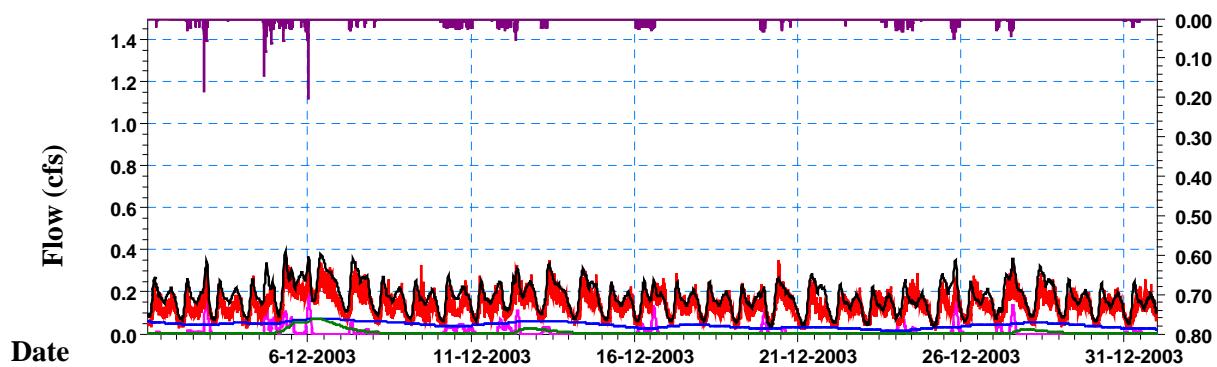
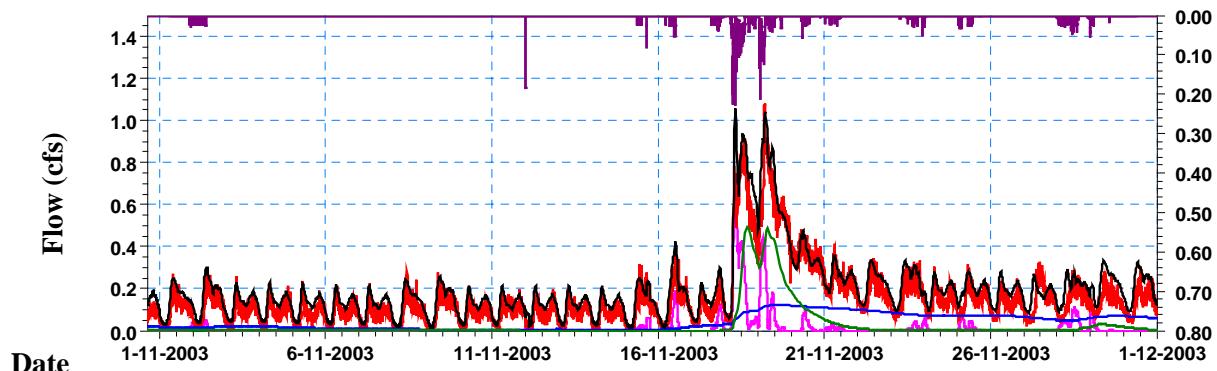


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

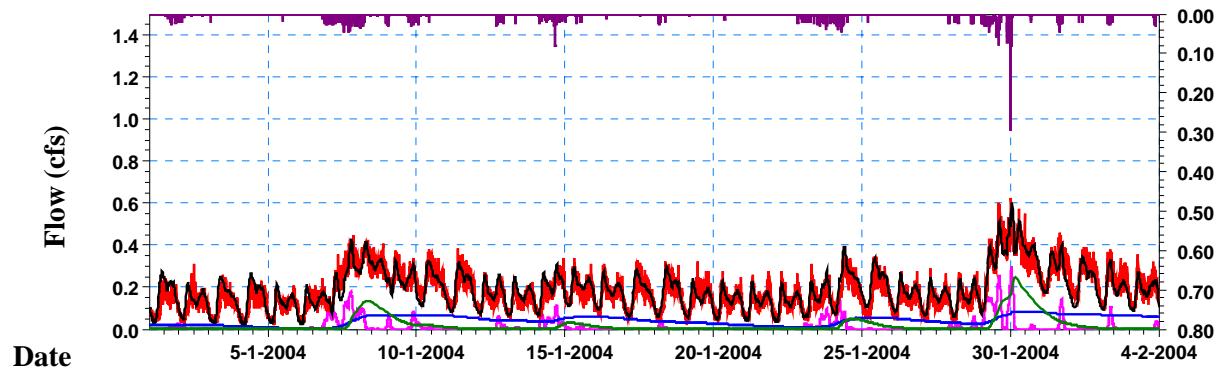


### Ronald Control Basin (2003-2004 Monitoring Period)

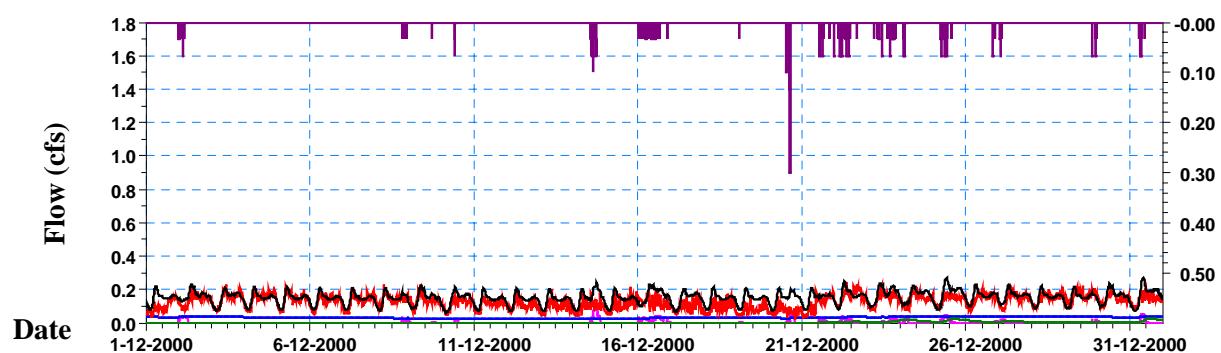
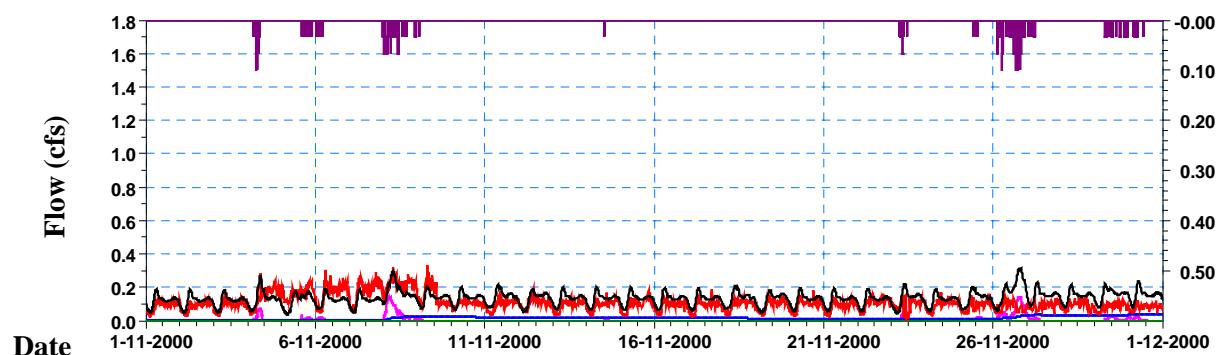


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

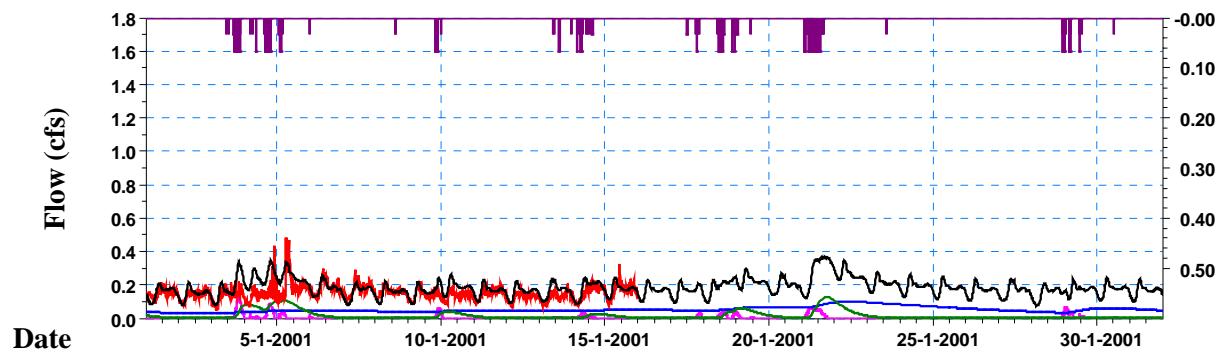


### Ronald Pilot Basin (2000-2001 Monitoring Period)

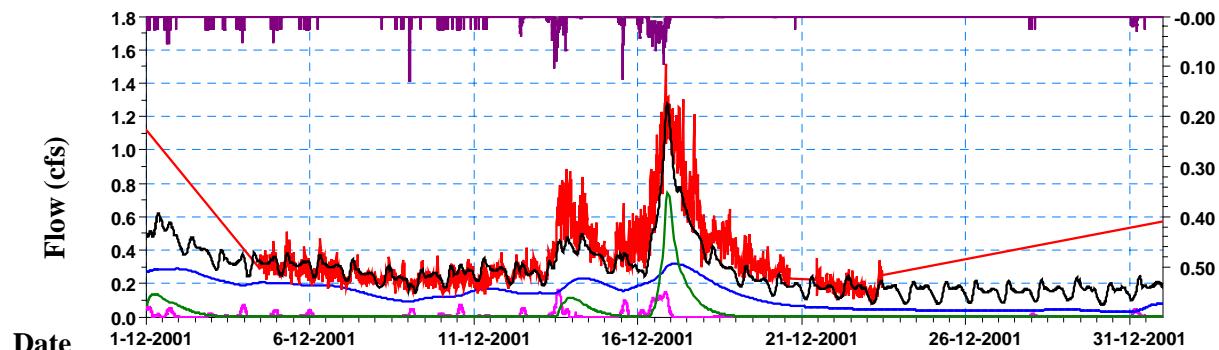
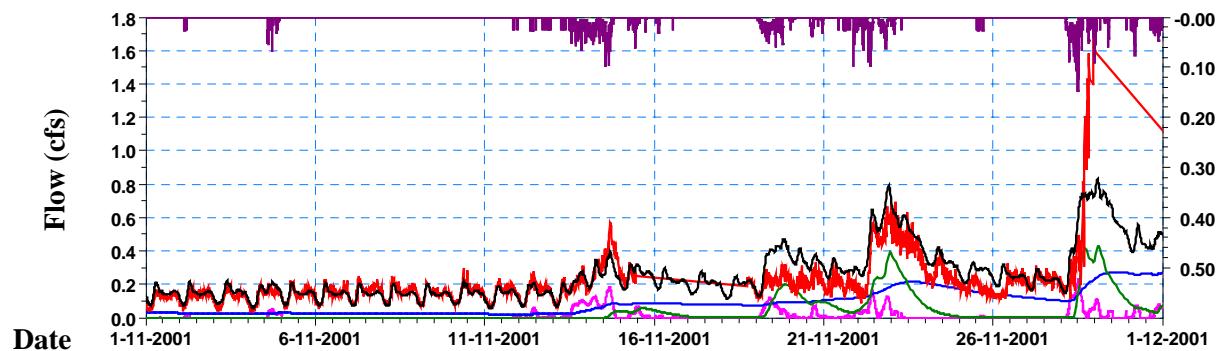


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) | — | Rapid Infiltration      | — |

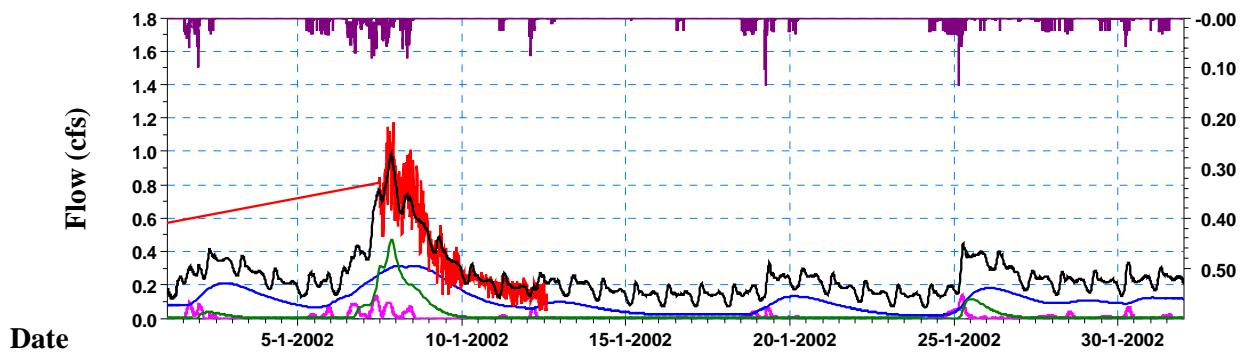


**Ronald Pilot Basin (2001-2002 Monitoring Period)**

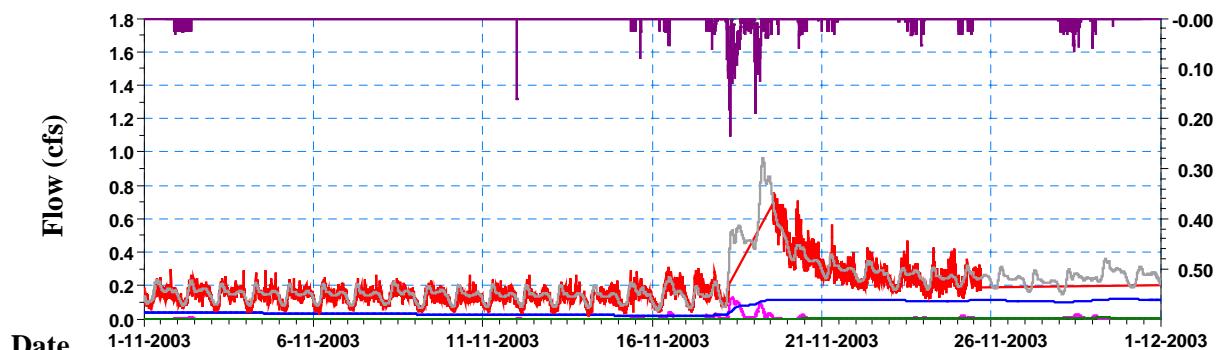
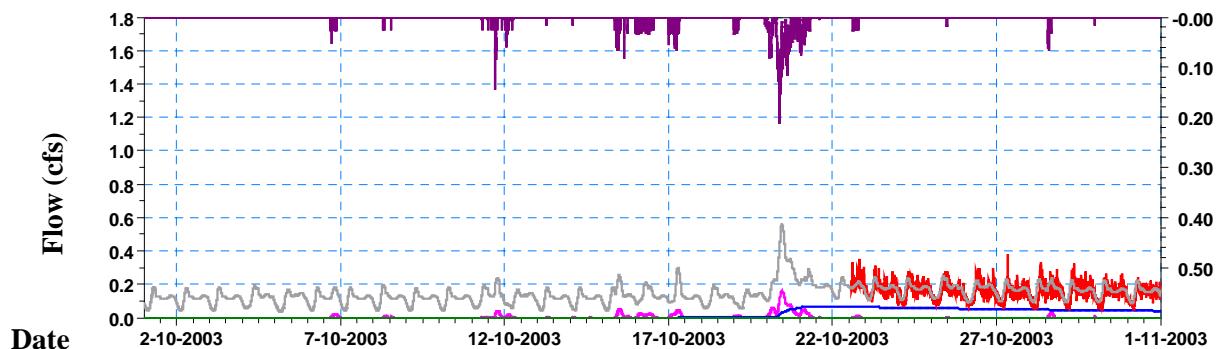


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) | — | Rapid Infiltration      | — |

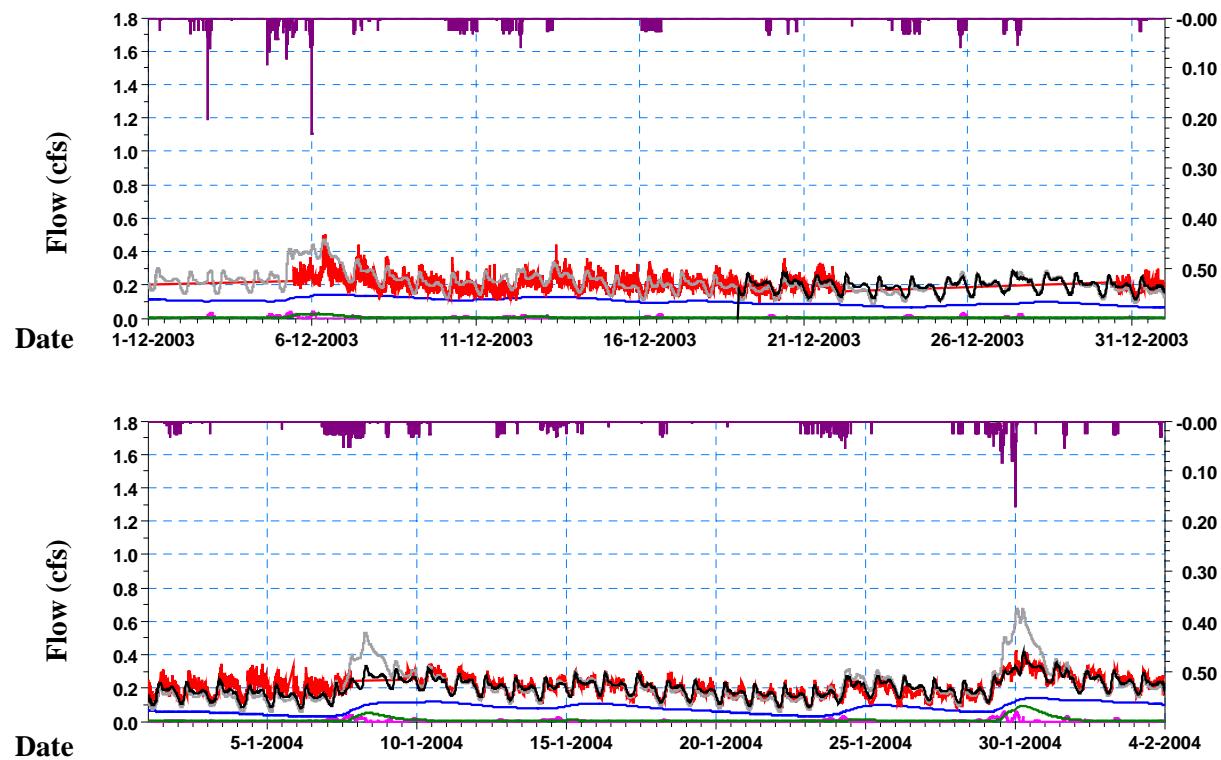


### Ronald Pilot Basin (2003-2004 Monitoring Period)

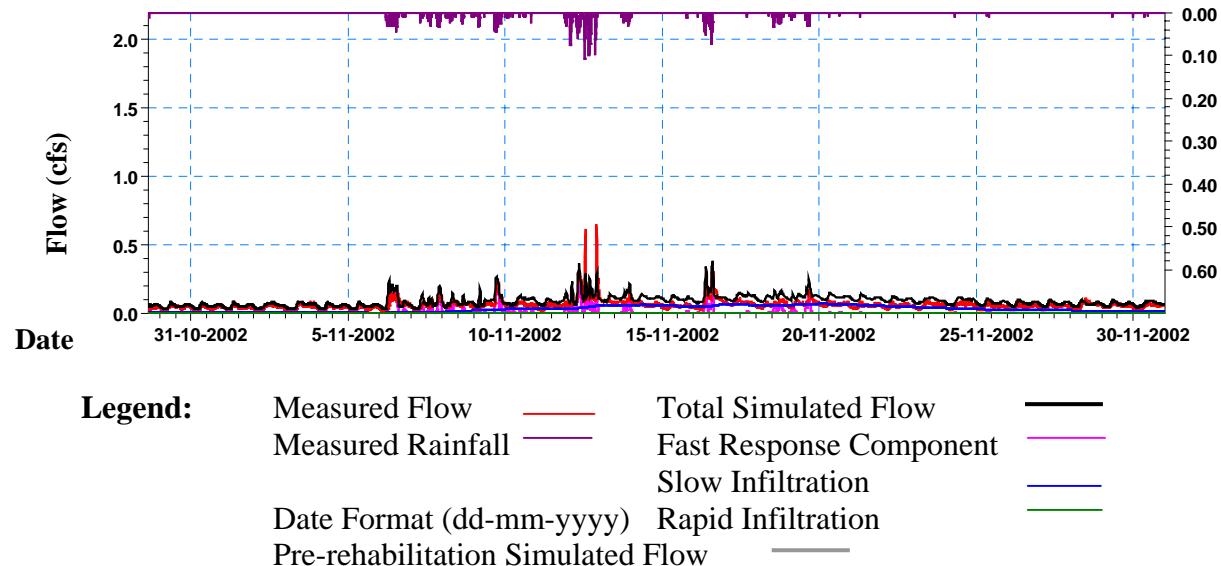


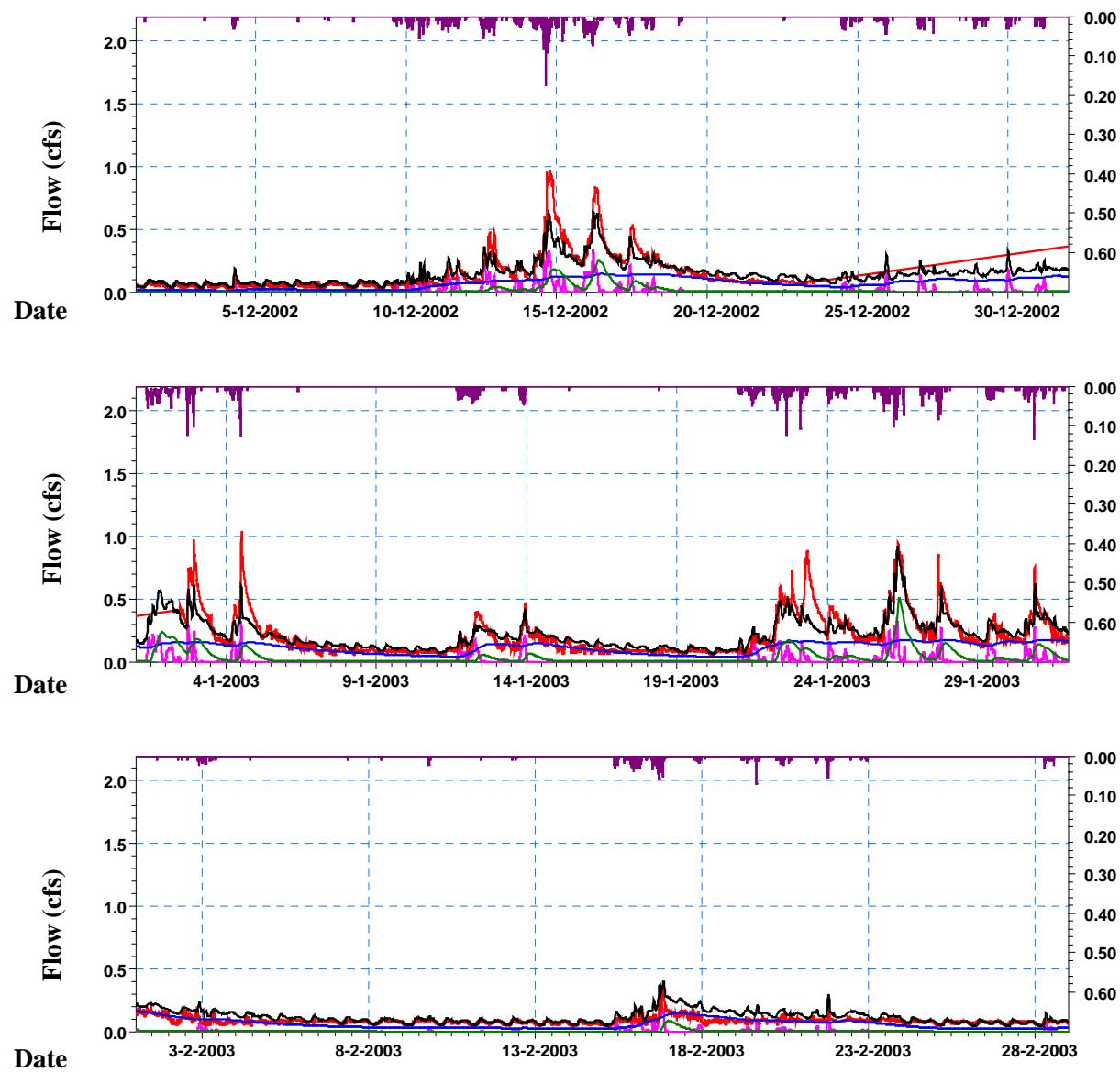
**Legend:**

|                                   |   |                         |   |
|-----------------------------------|---|-------------------------|---|
| Measured Flow                     | — | Total Simulated Flow    | — |
| Measured Rainfall                 | — | Fast Response Component | — |
|                                   |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy)          | — | Rapid Infiltration      | — |
| Pre-rehabilitation Simulated Flow | — |                         |   |



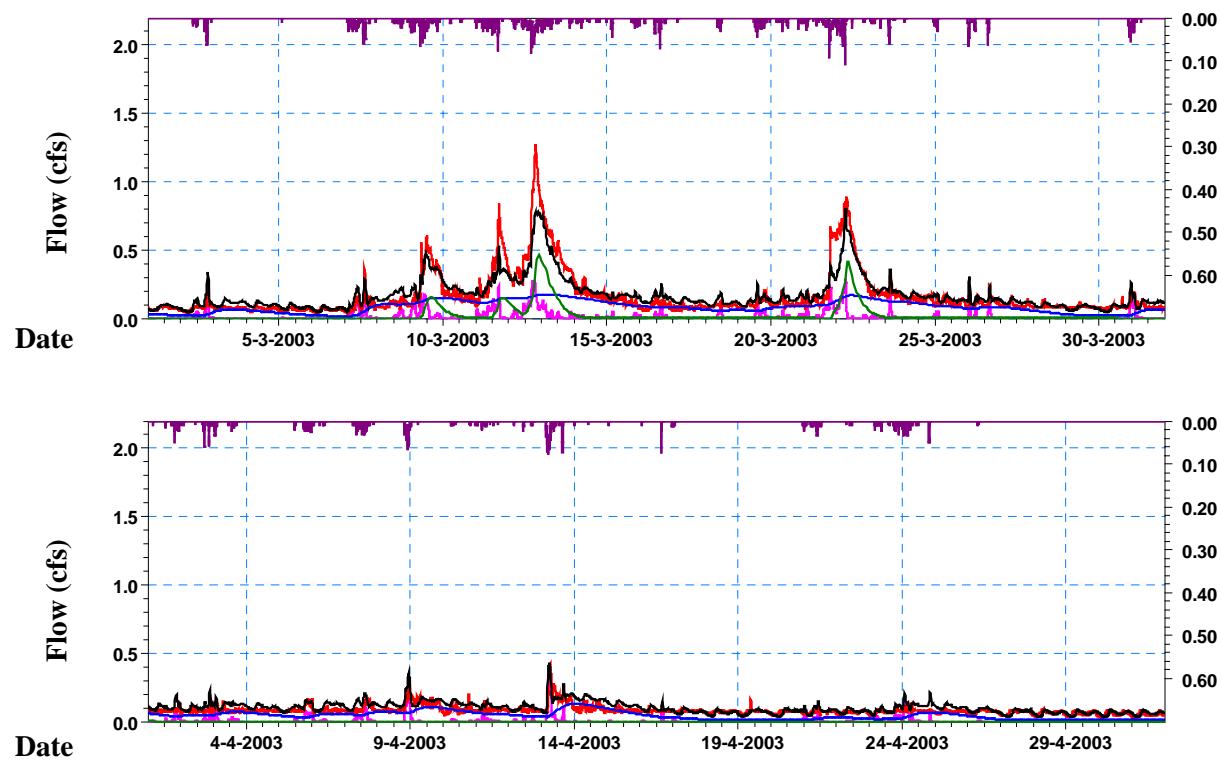
### Skyway Control Basin (2002-2003 Monitoring Period)



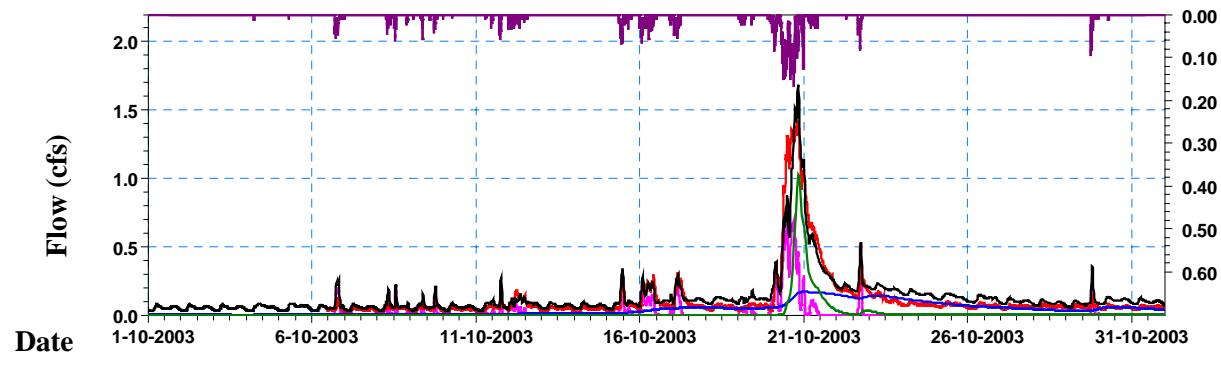


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

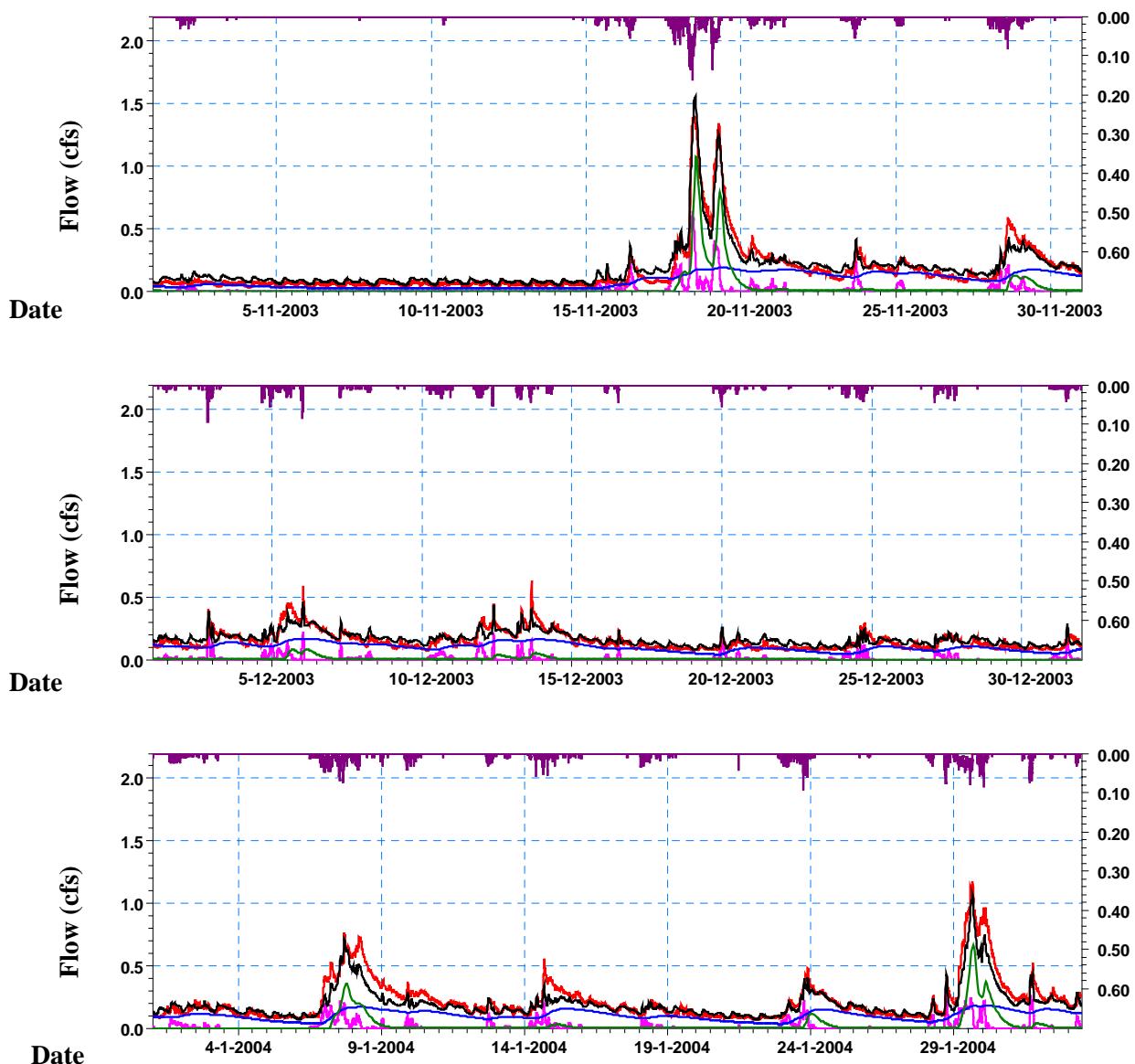


### Skyway Control Basin (2003-2004 Monitoring Period)



**Legend:**

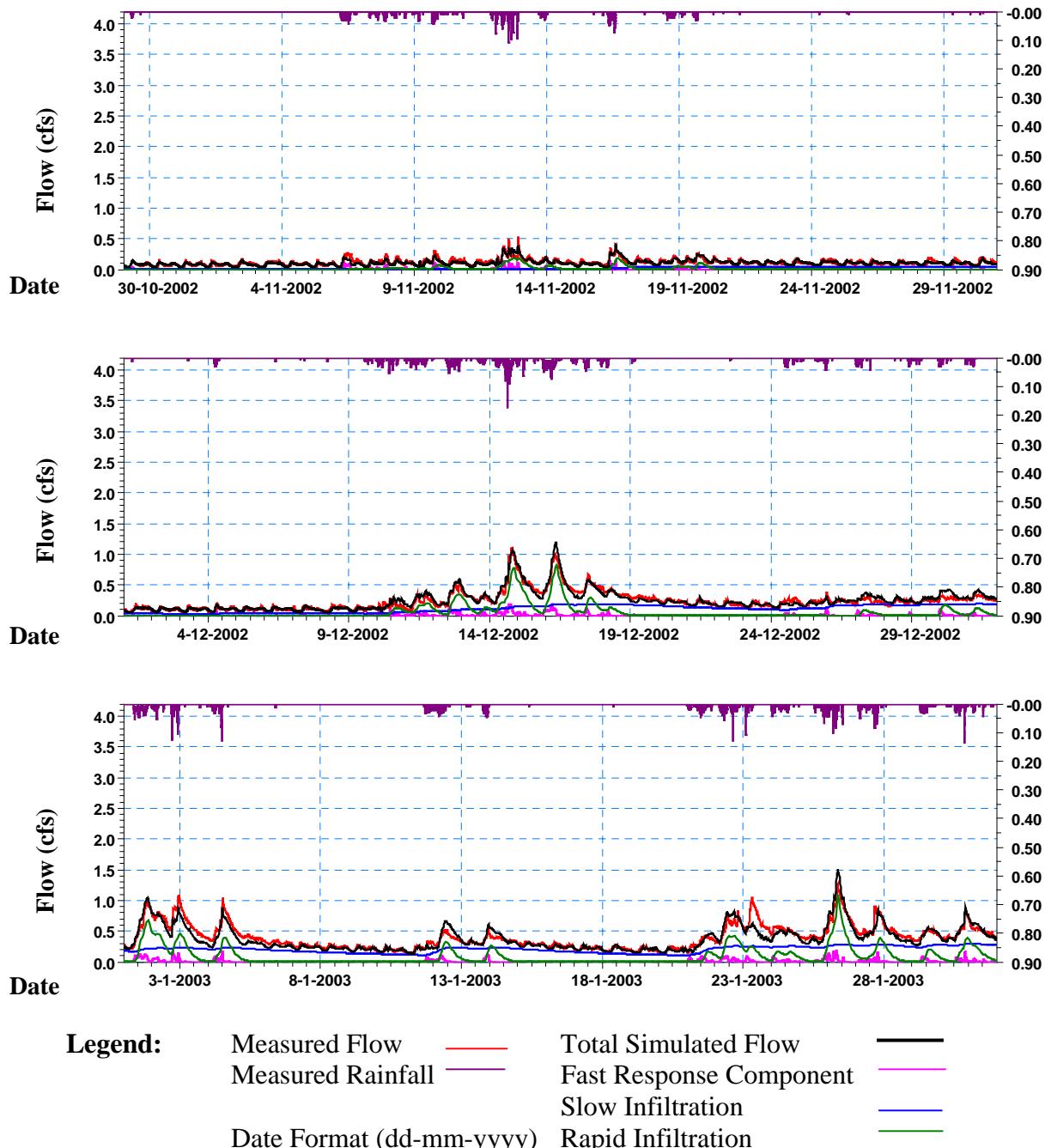
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

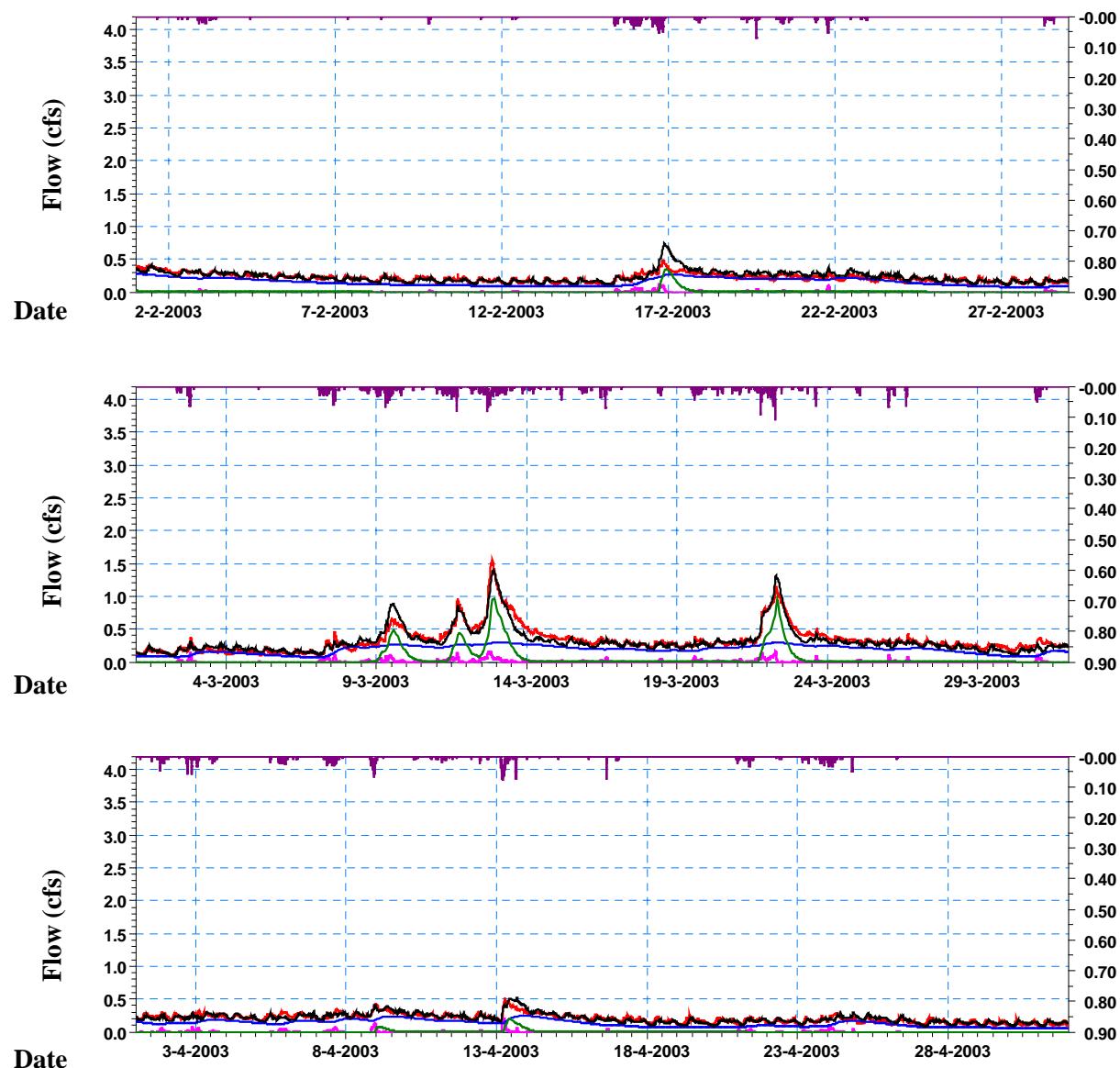


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

## Skyway Pilot Basin (2002-2003 Monitoring Period)

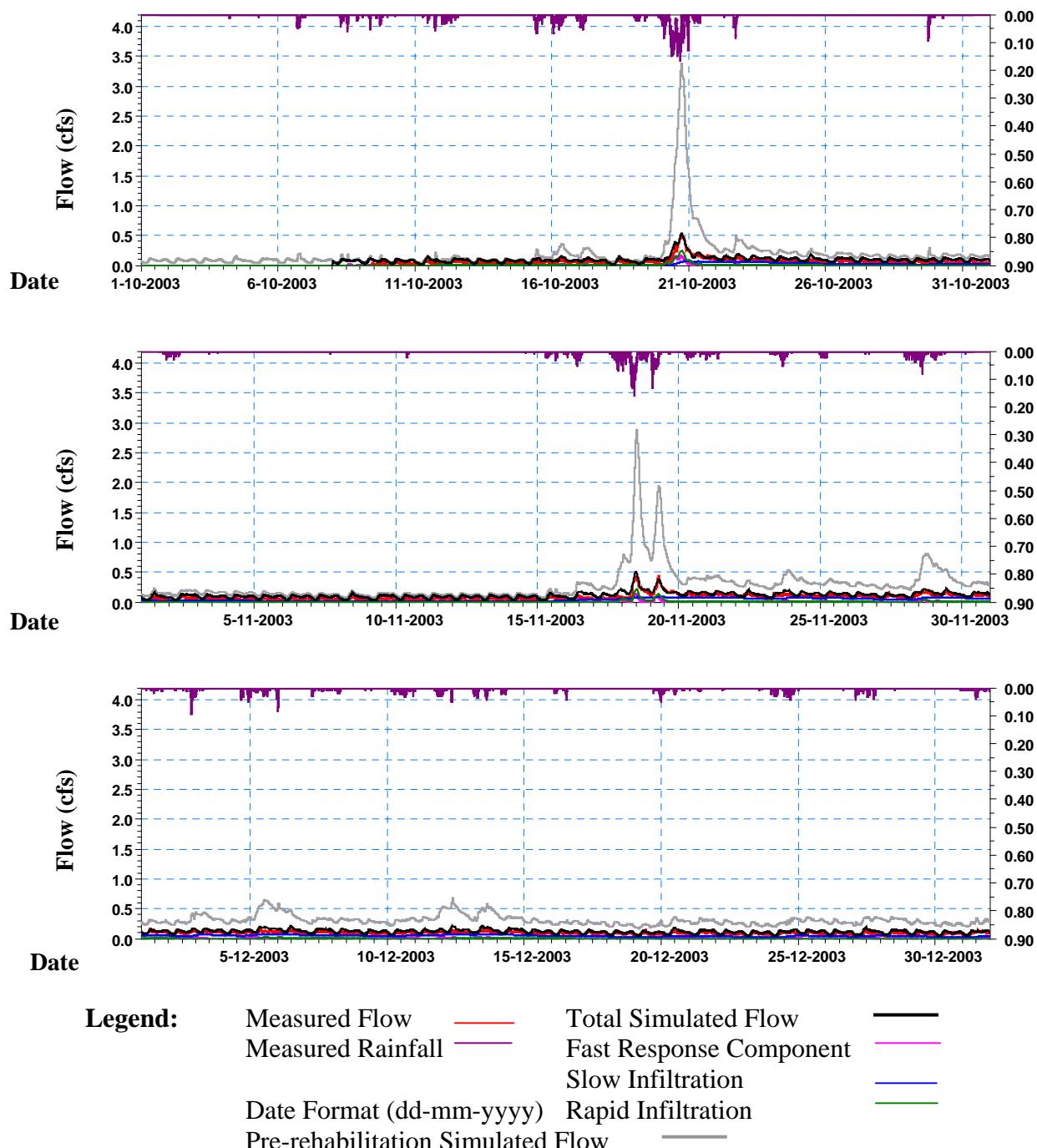


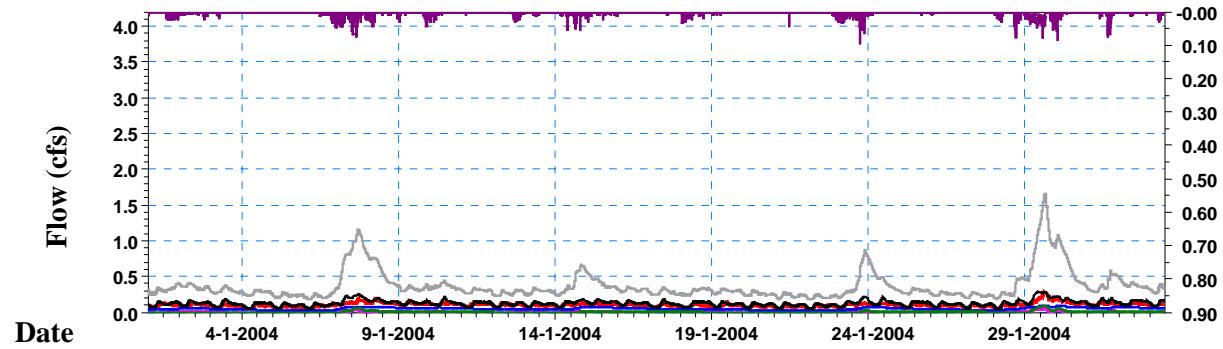


**Legend:**

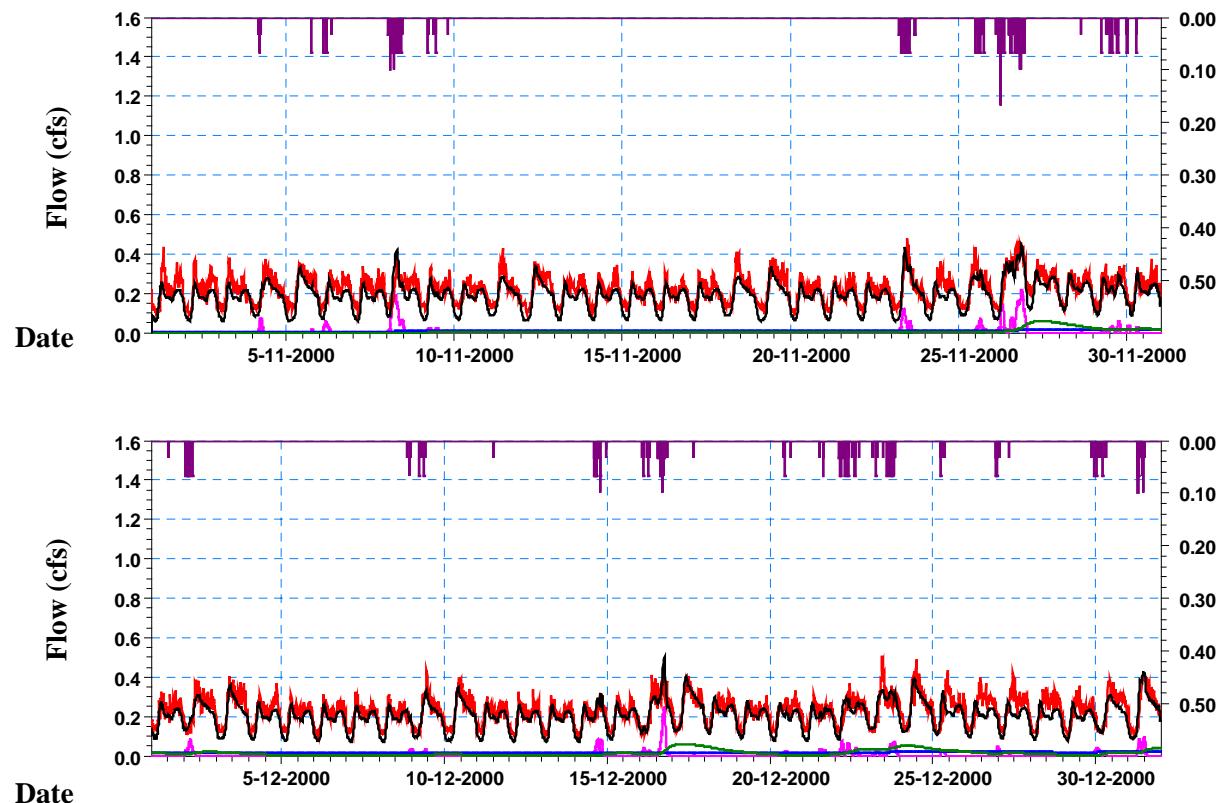
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) | — | Rapid Infiltration      | — |

### Skyway Pilot Basin (2003-2004 Monitoring Period)



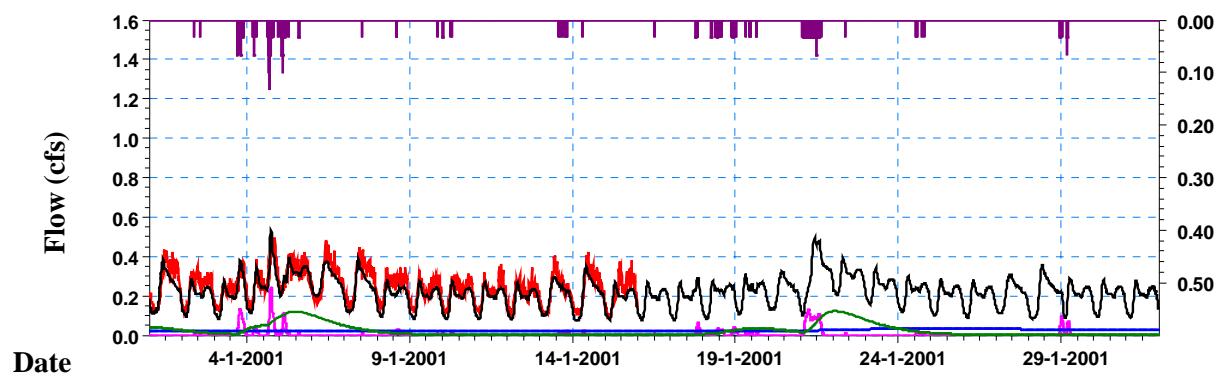


**Val Vue Control Basin (2000-2001 Monitoring Period)**

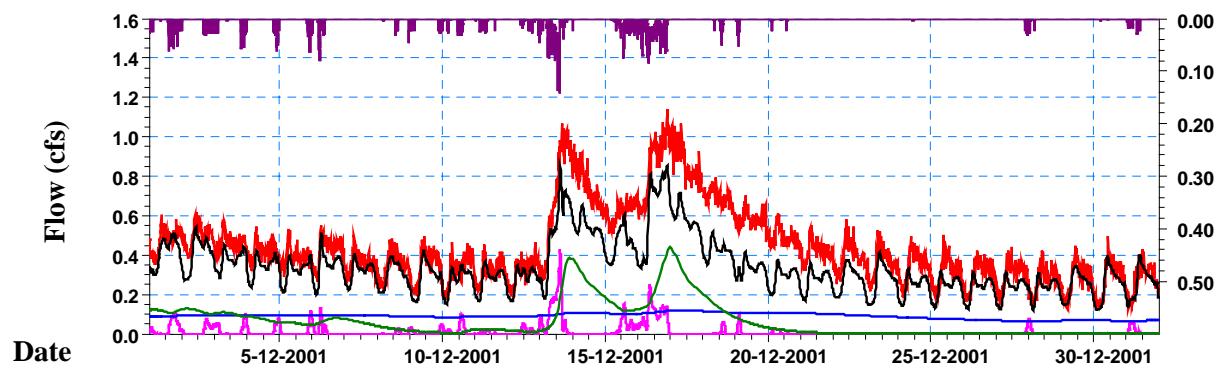
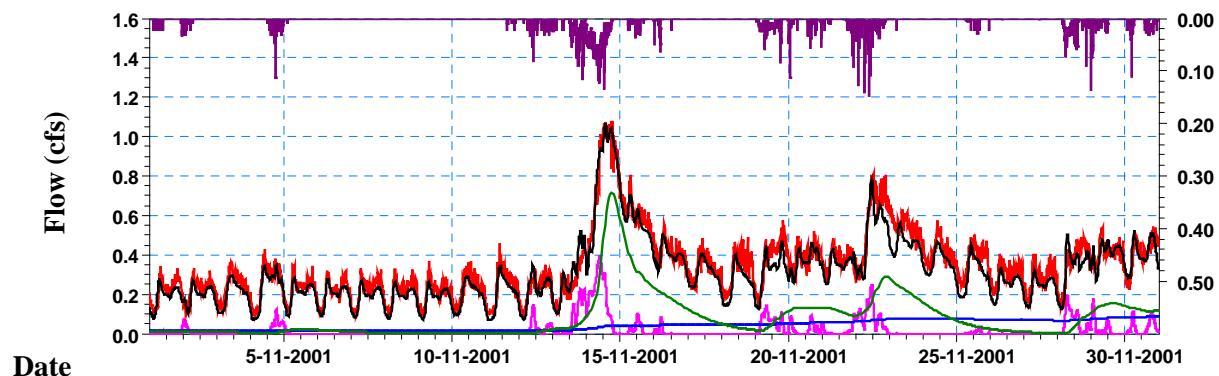


**Legend:**

|                                   |   |                         |   |
|-----------------------------------|---|-------------------------|---|
| Measured Flow                     | — | Total Simulated Flow    | — |
| Measured Rainfall                 | — | Fast Response Component | — |
|                                   |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy)          | — | Rapid Infiltration      | — |
| Pre-rehabilitation Simulated Flow | — |                         |   |

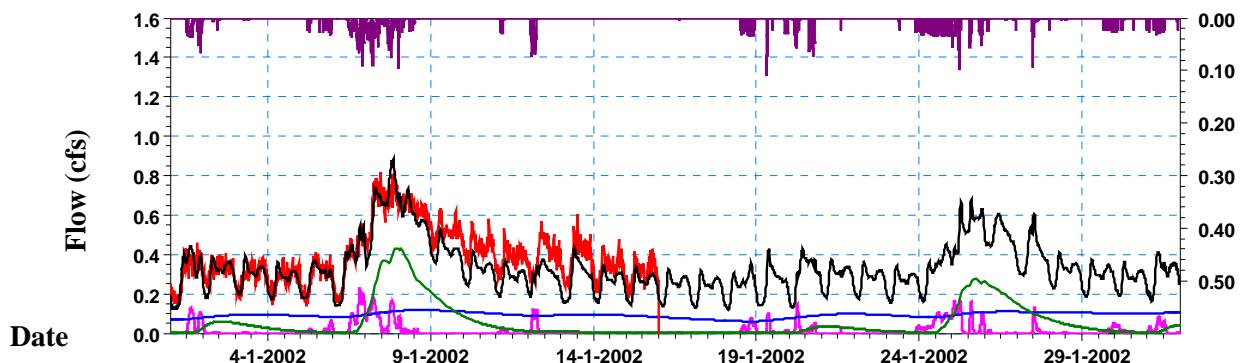


**Val Vue Control Basin (2001-2002 Monitoring Period)**

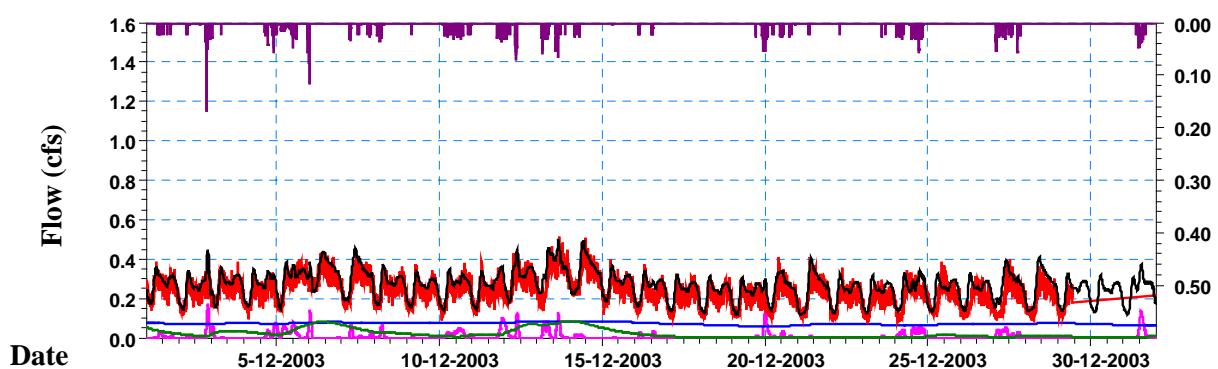
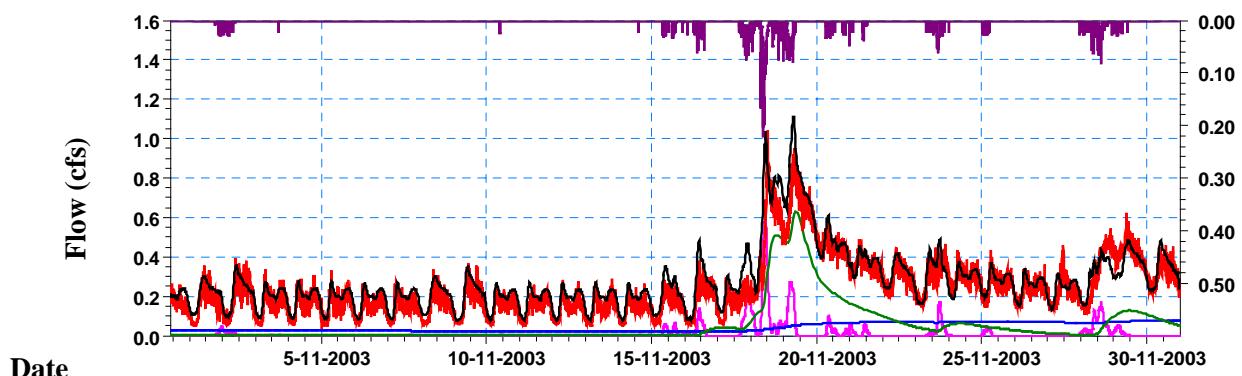


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

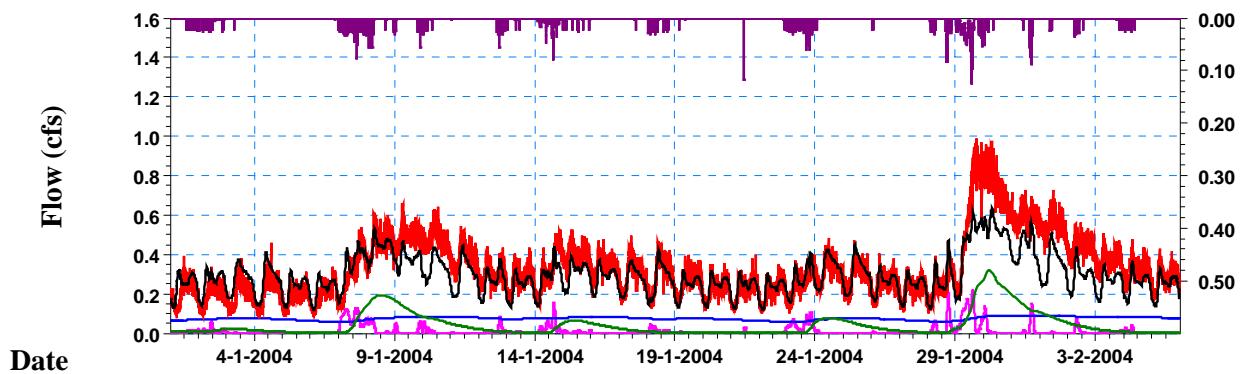


### Val Vue Control Basin (2003-2004 Monitoring Period)

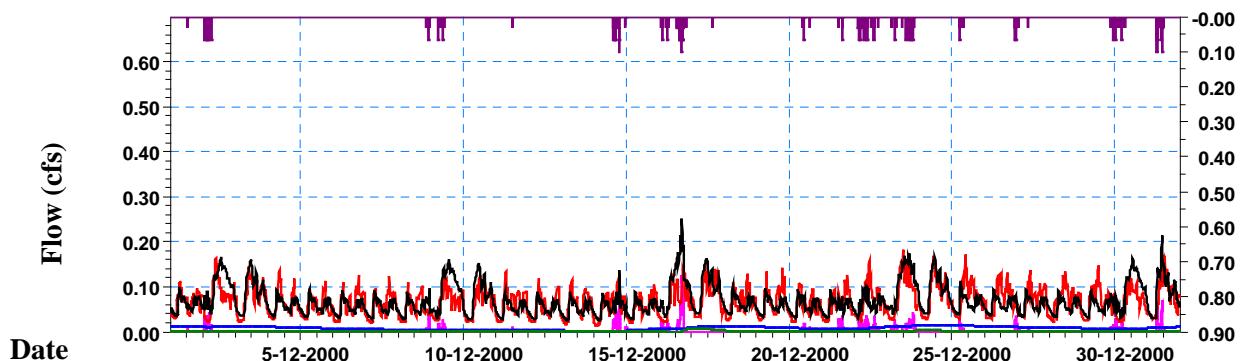
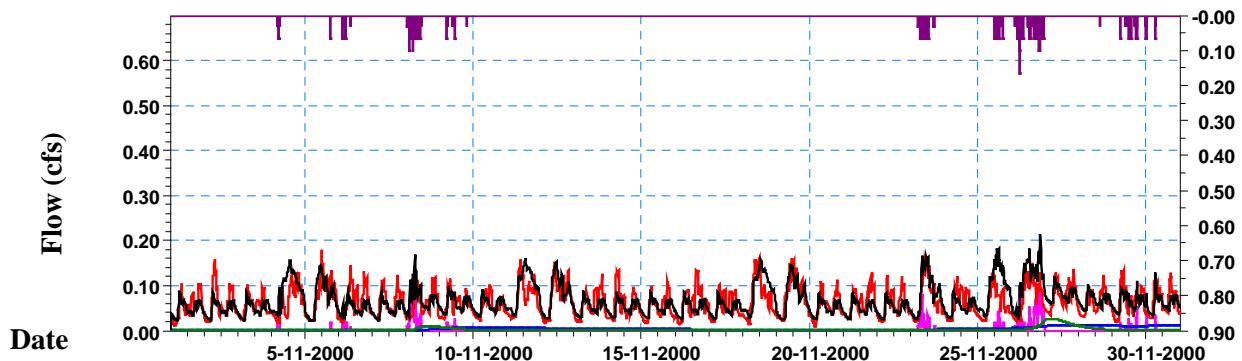


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

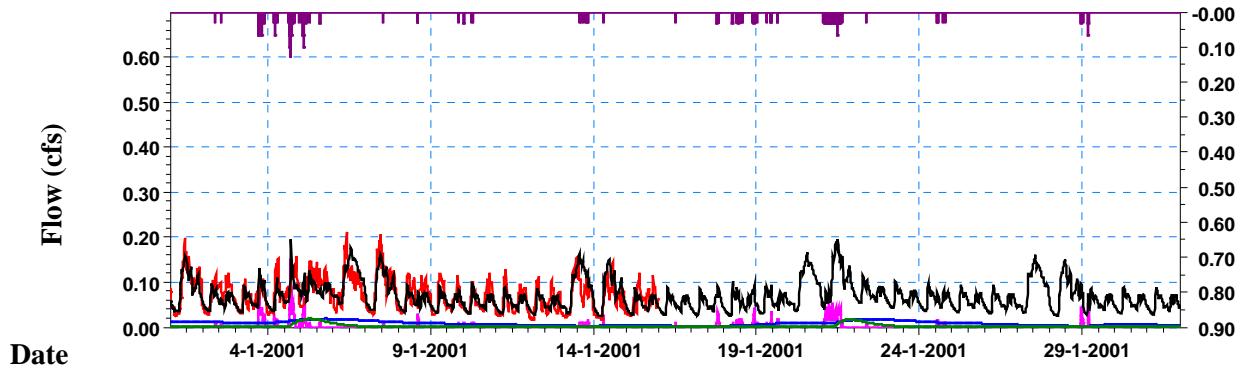


### Val Vue Pilot Basin (2000-2001 Monitoring Period)

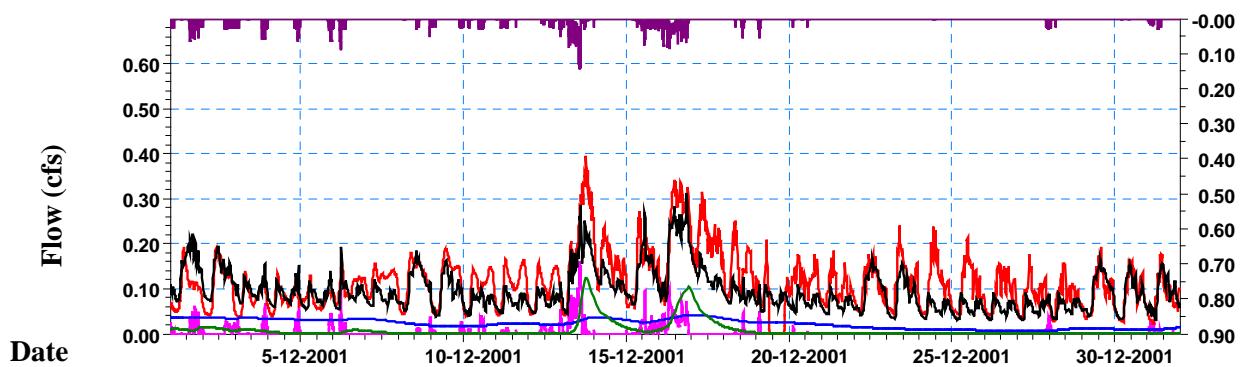
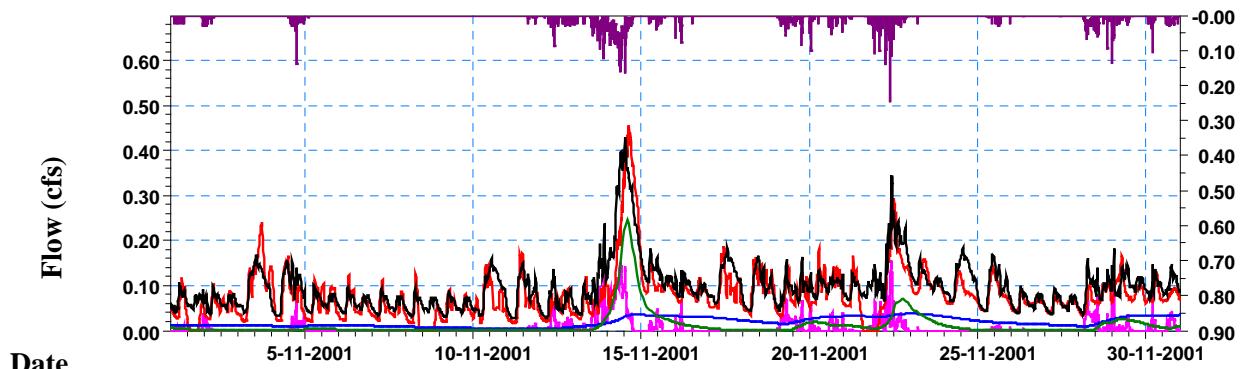


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

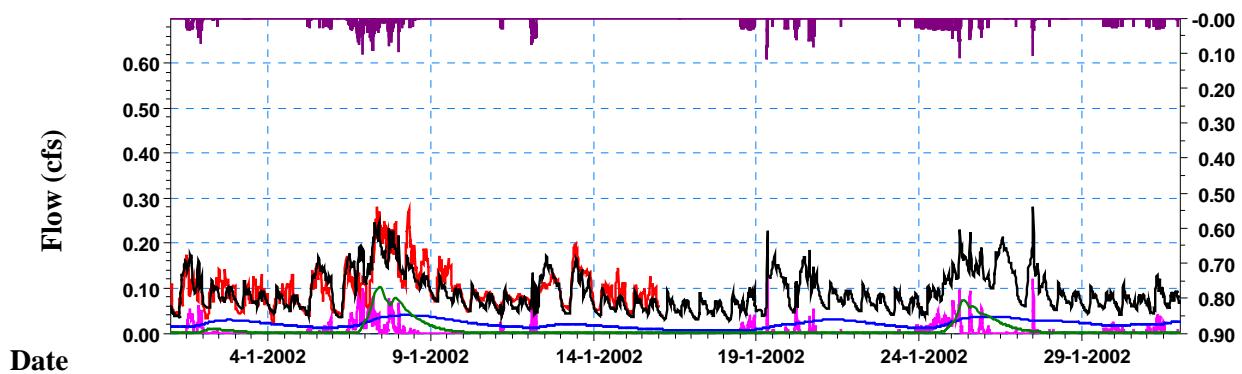


**Val Vue Pilot Basin (2001-2002 Monitoring Period)**

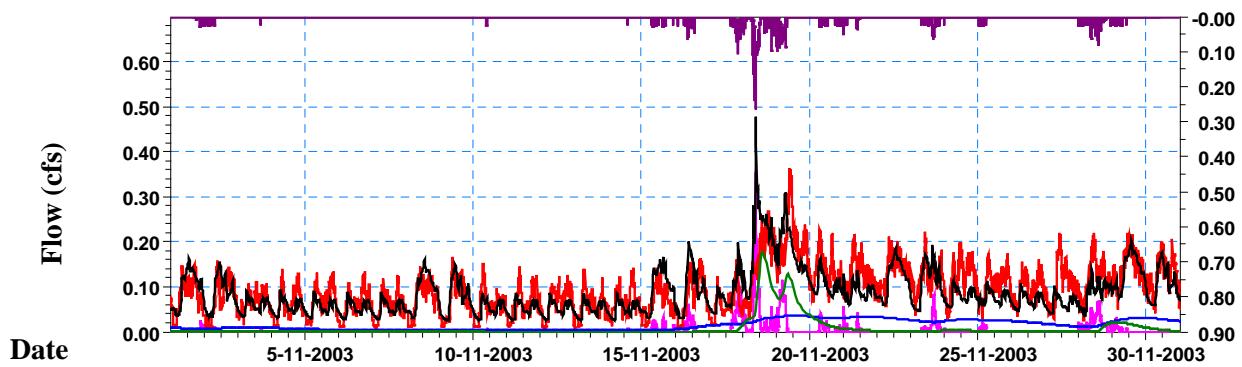
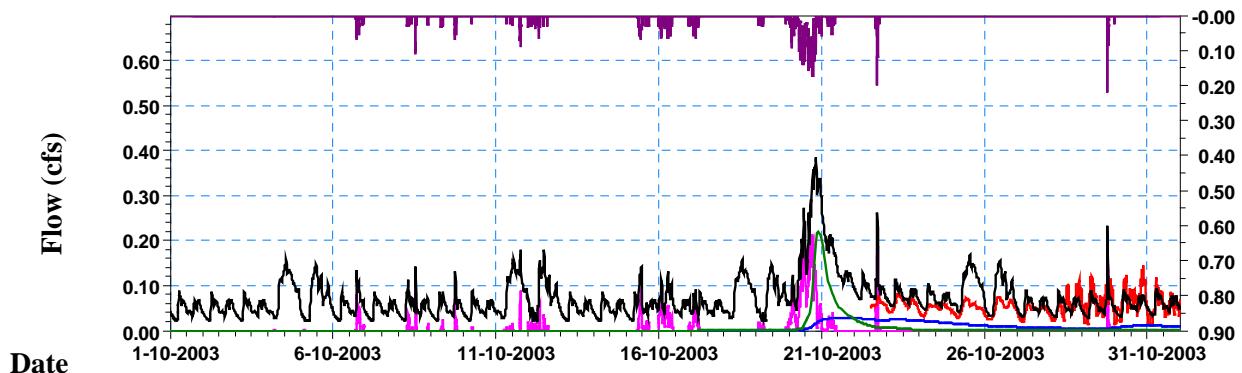


**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

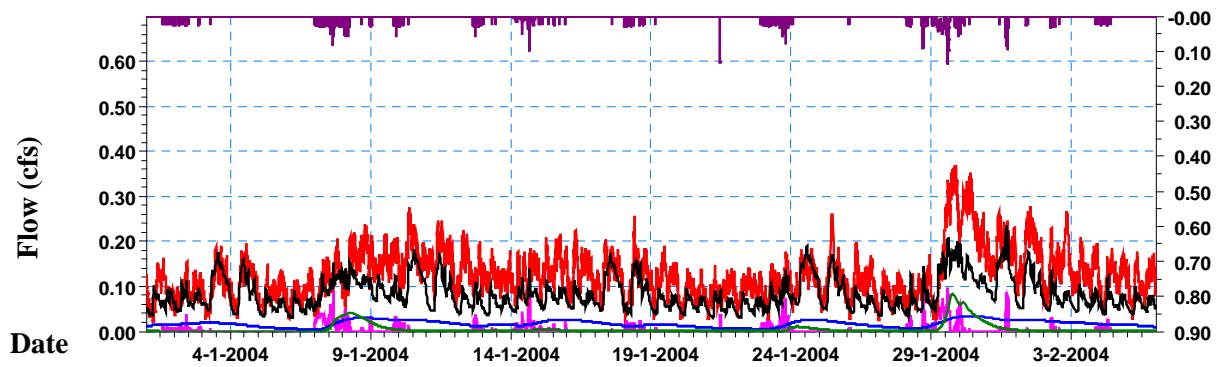
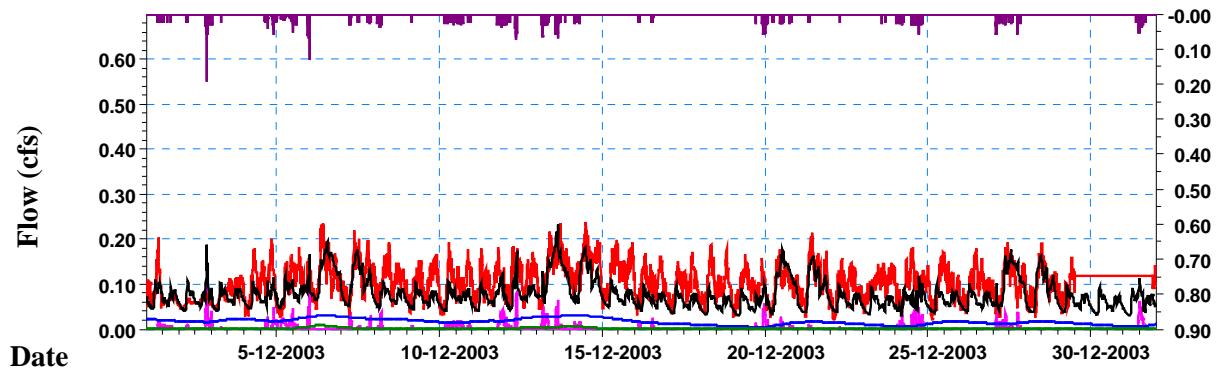


### Val Vue Pilot Basin (2003-2004 Monitoring Period)



**Legend:**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
| Date Format (dd-mm-yyyy) |   | Rapid Infiltration      | — |

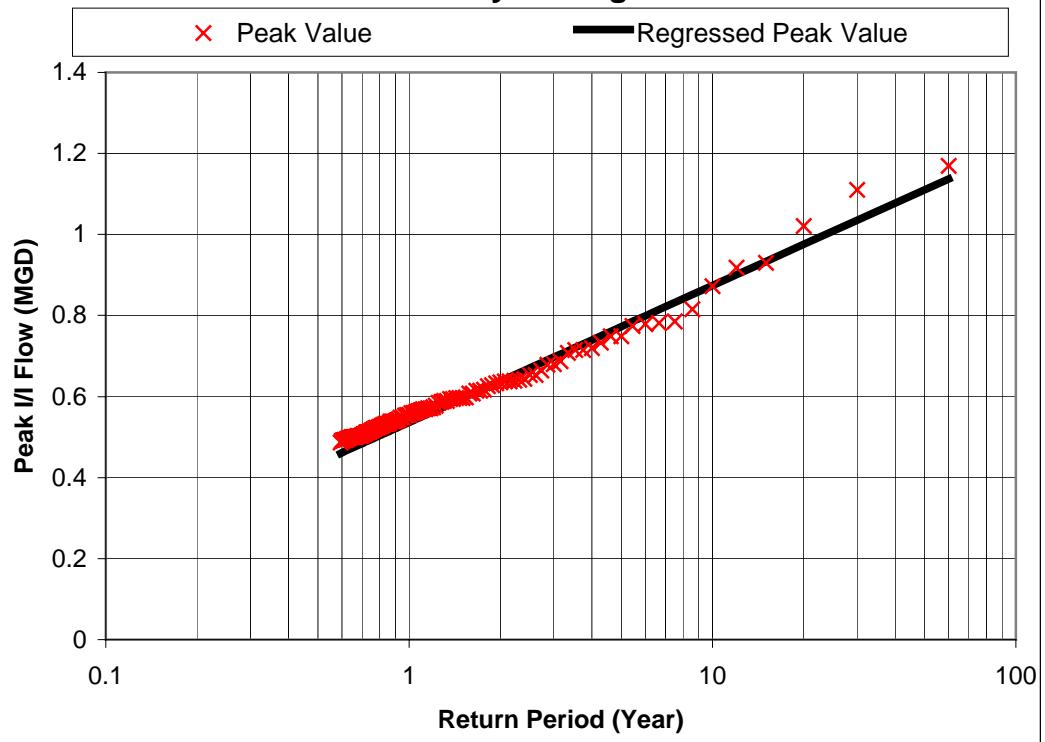


**Legend:**

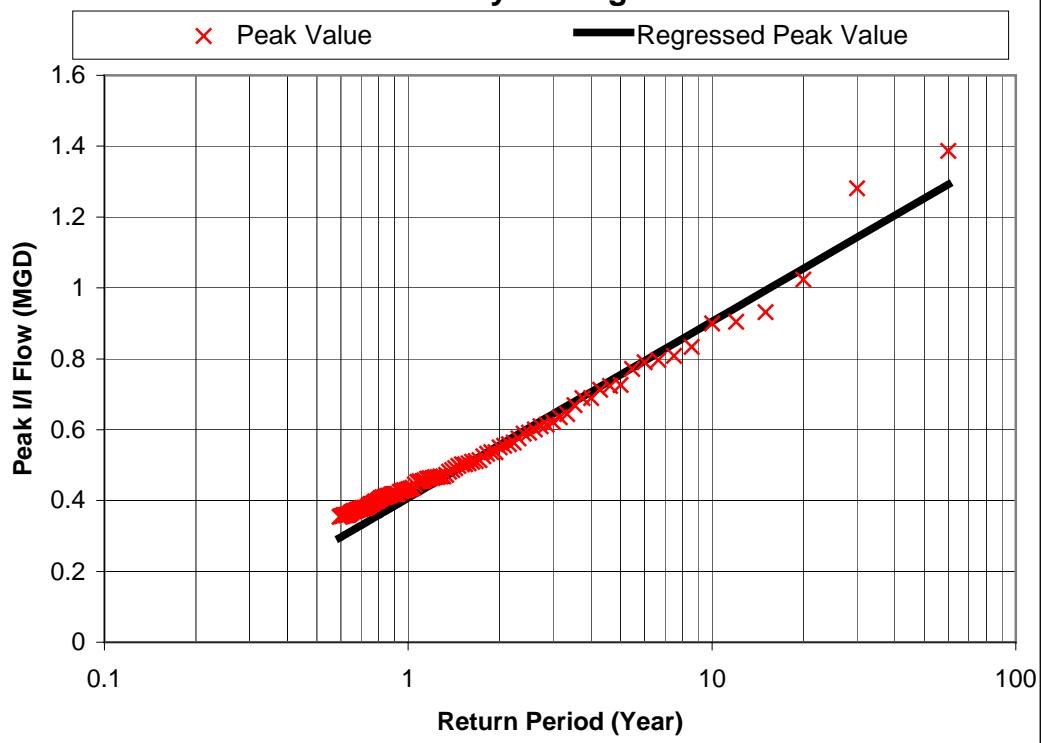
|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Measured Flow            | — | Total Simulated Flow    | — |
| Measured Rainfall        | — | Fast Response Component | — |
|                          |   | Slow Infiltration       | — |
|                          |   | Rapid Infiltration      | — |
| Date Format (dd-mm-yyyy) |   |                         |   |

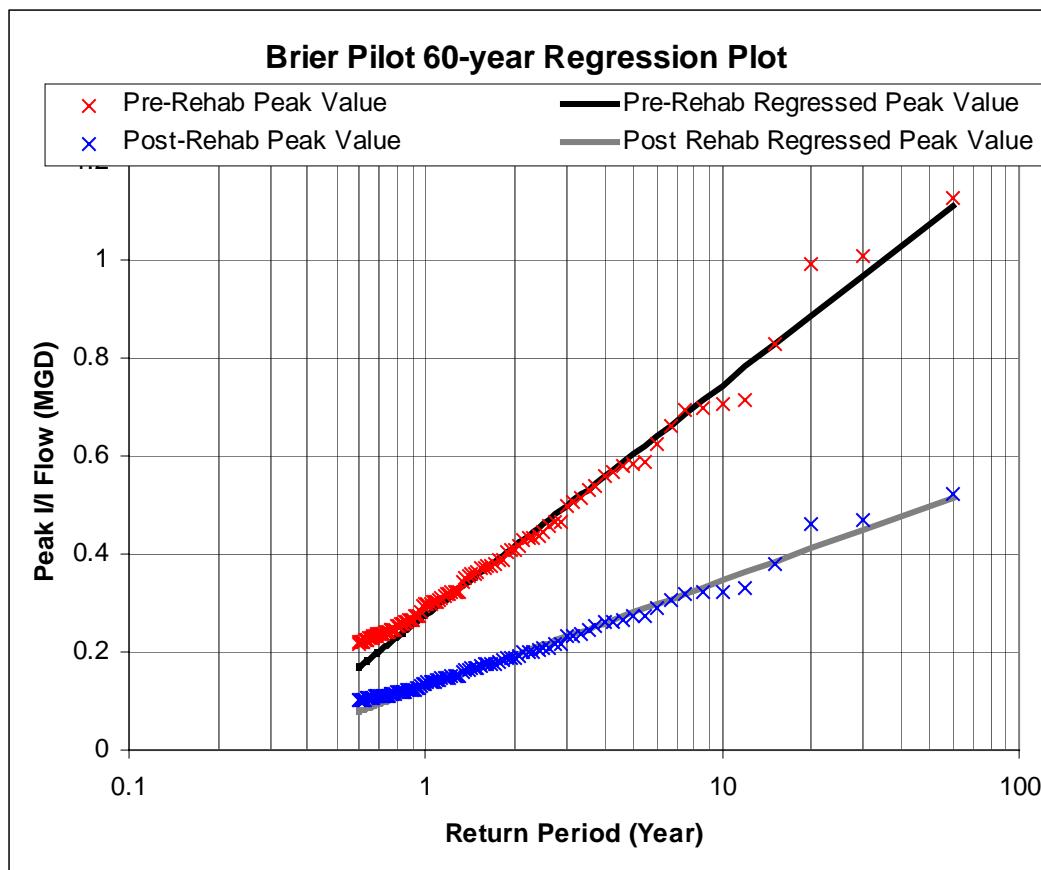
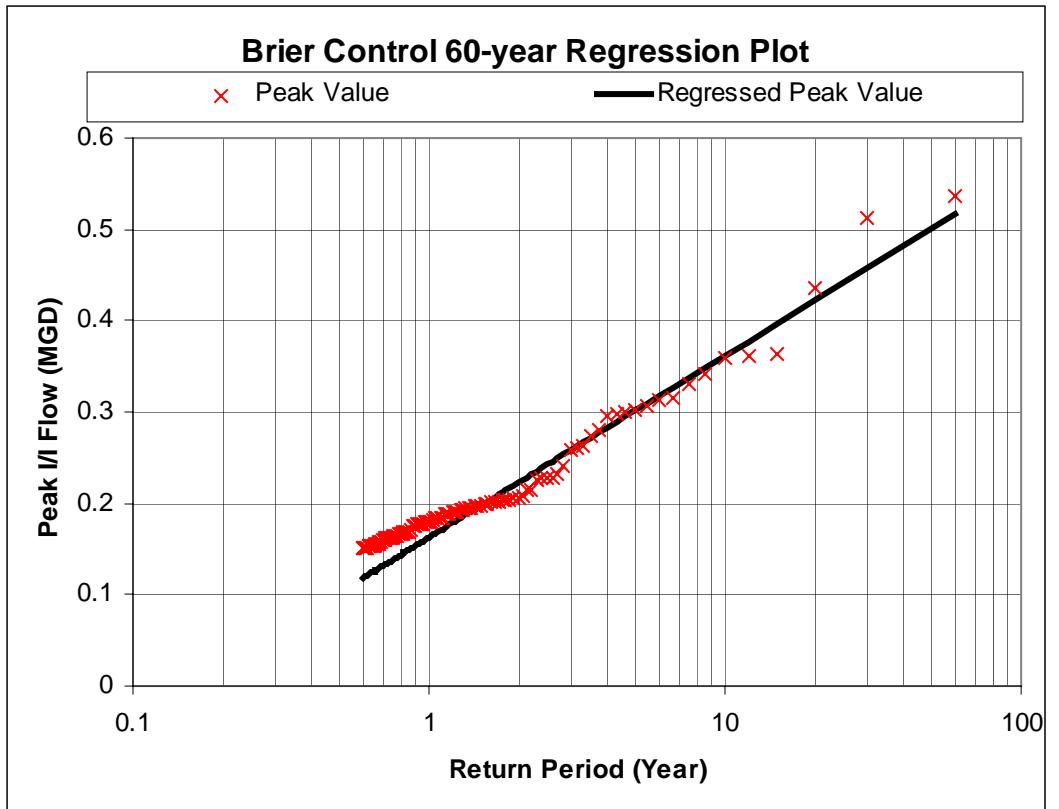


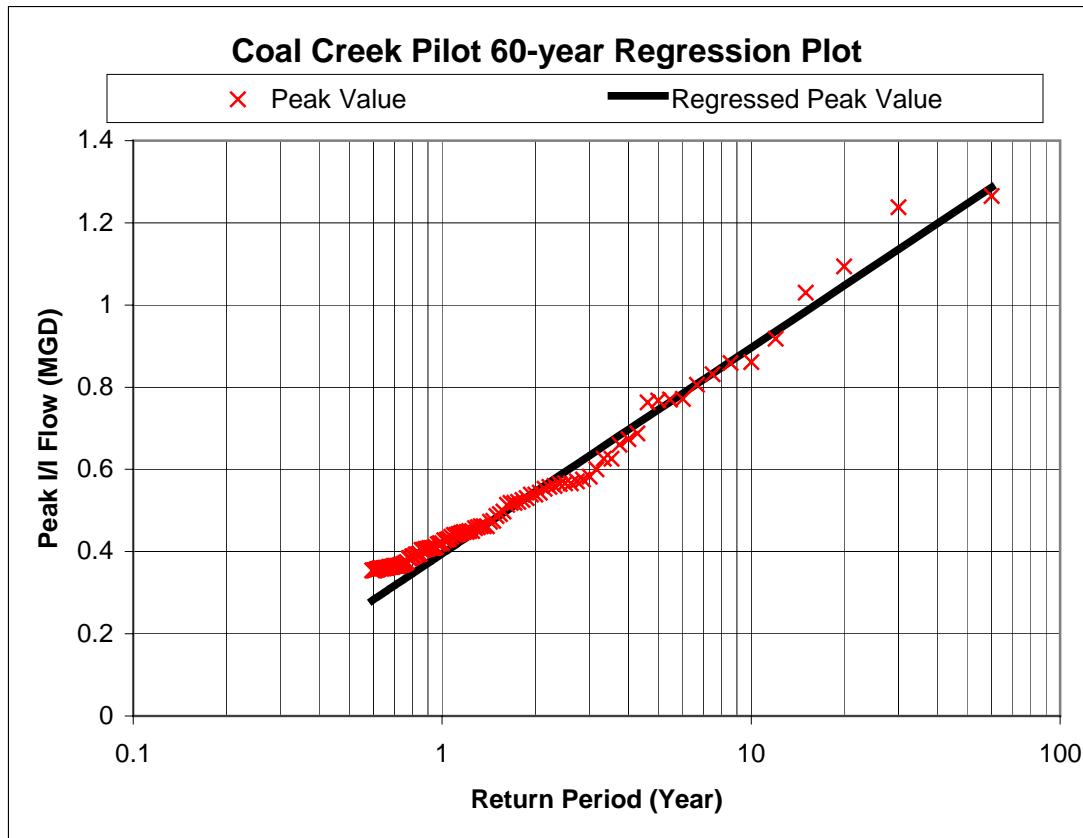
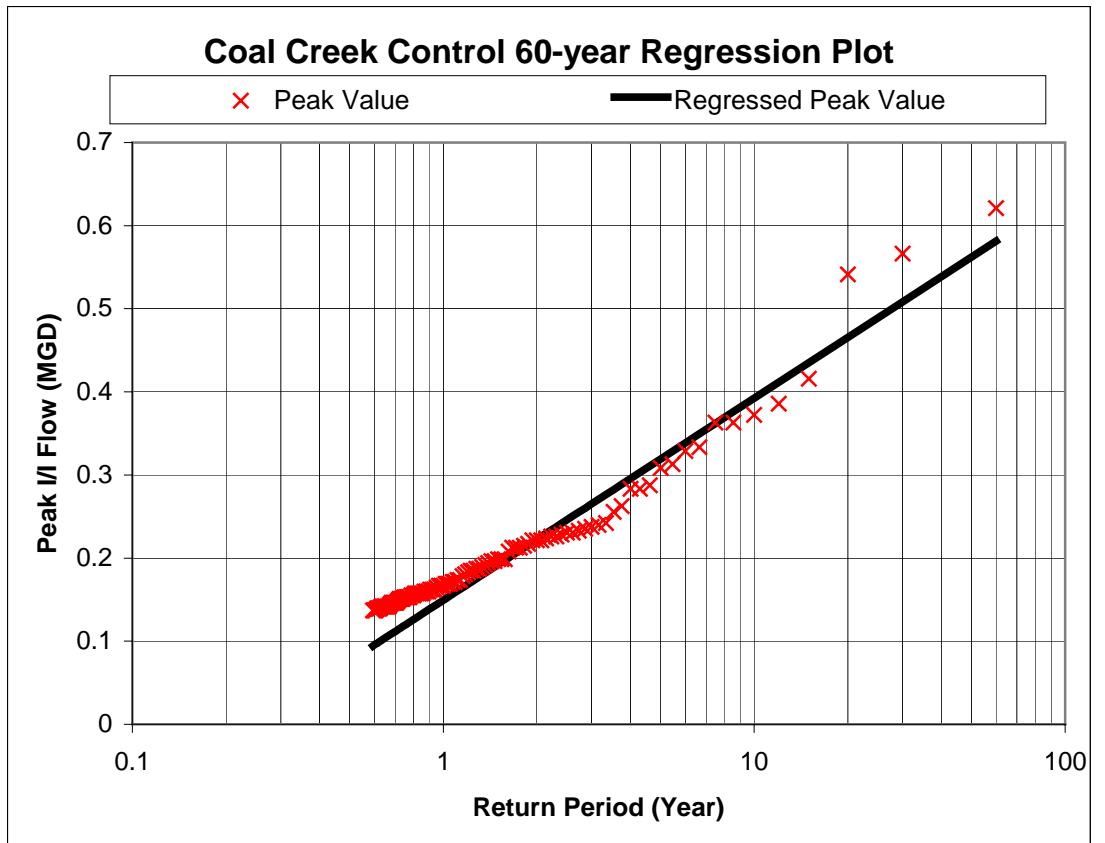
### Auburn Pilot A 60-year Regression Plot

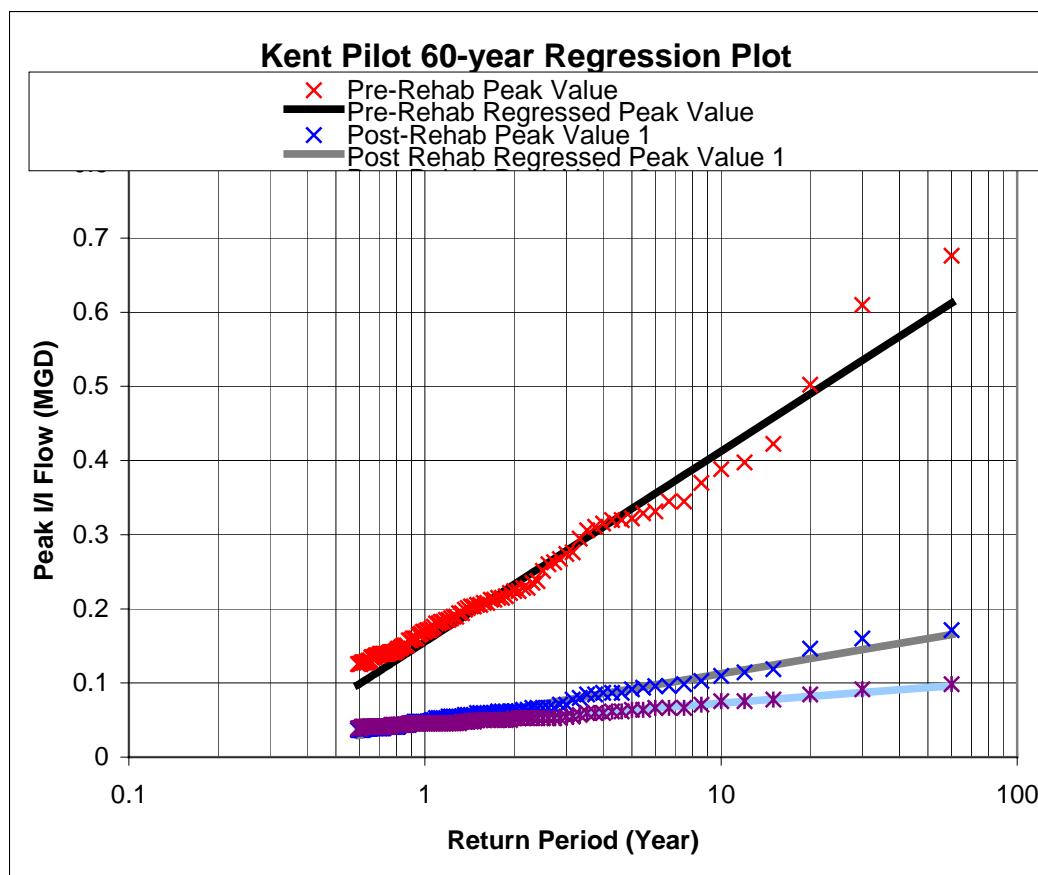
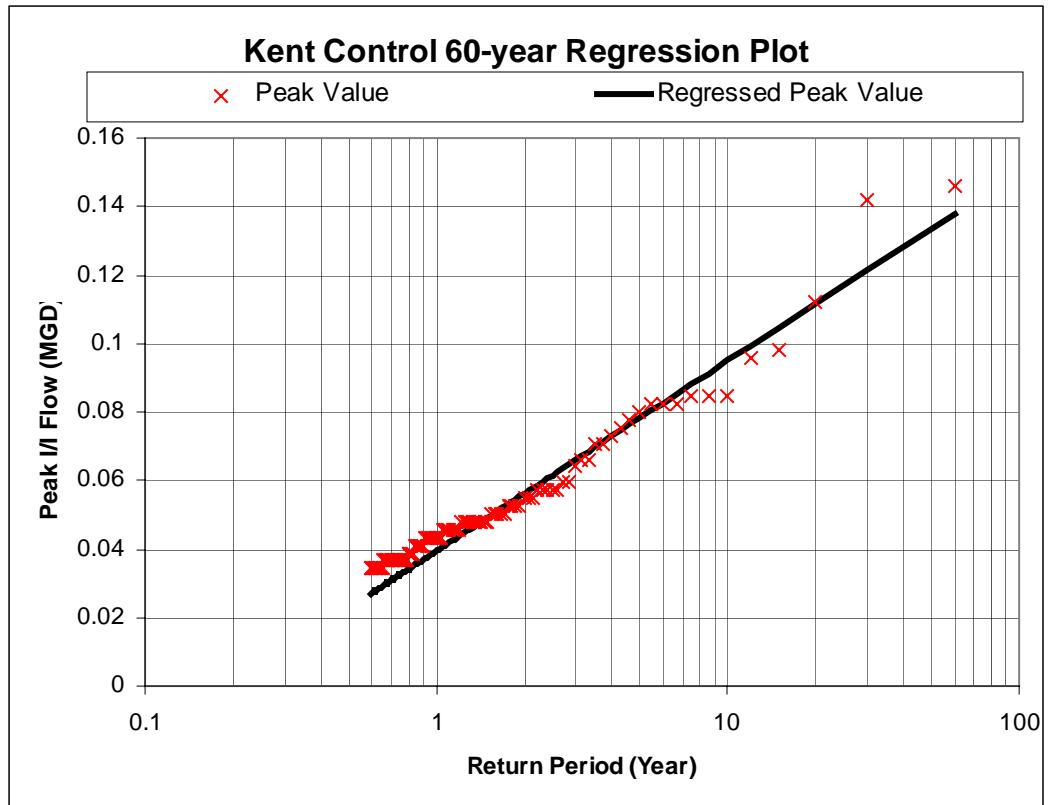


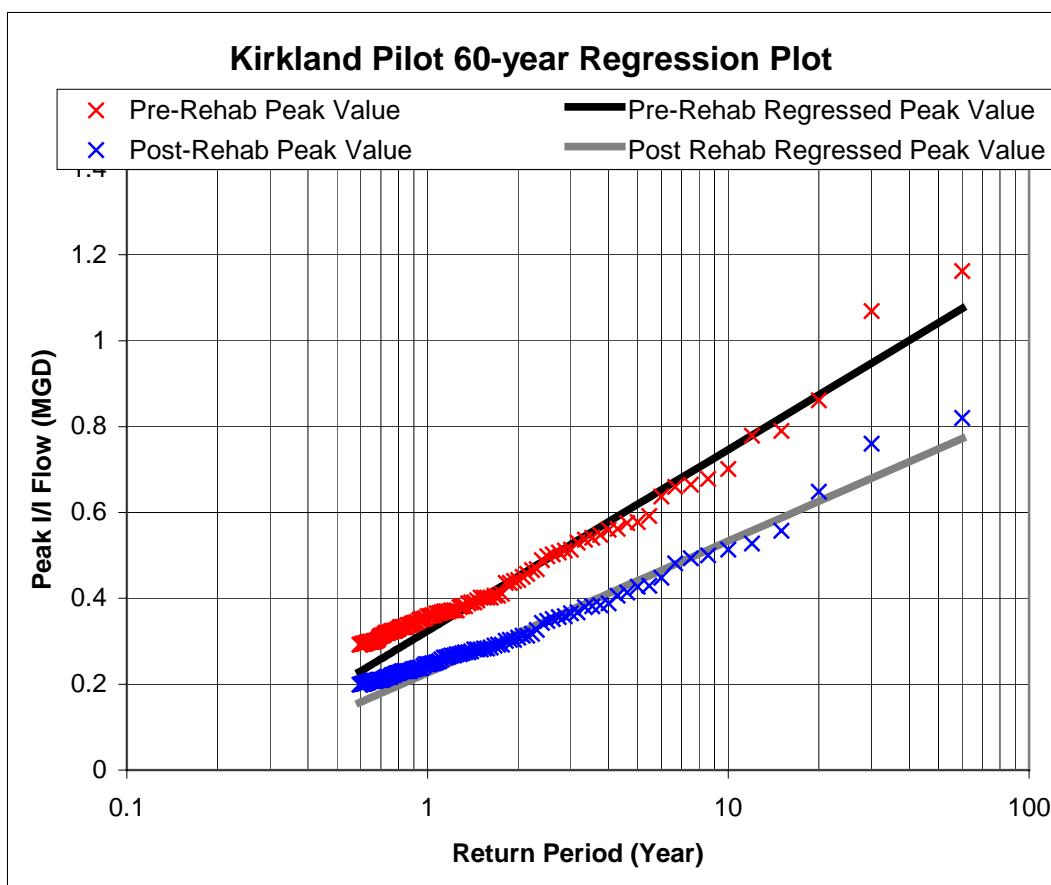
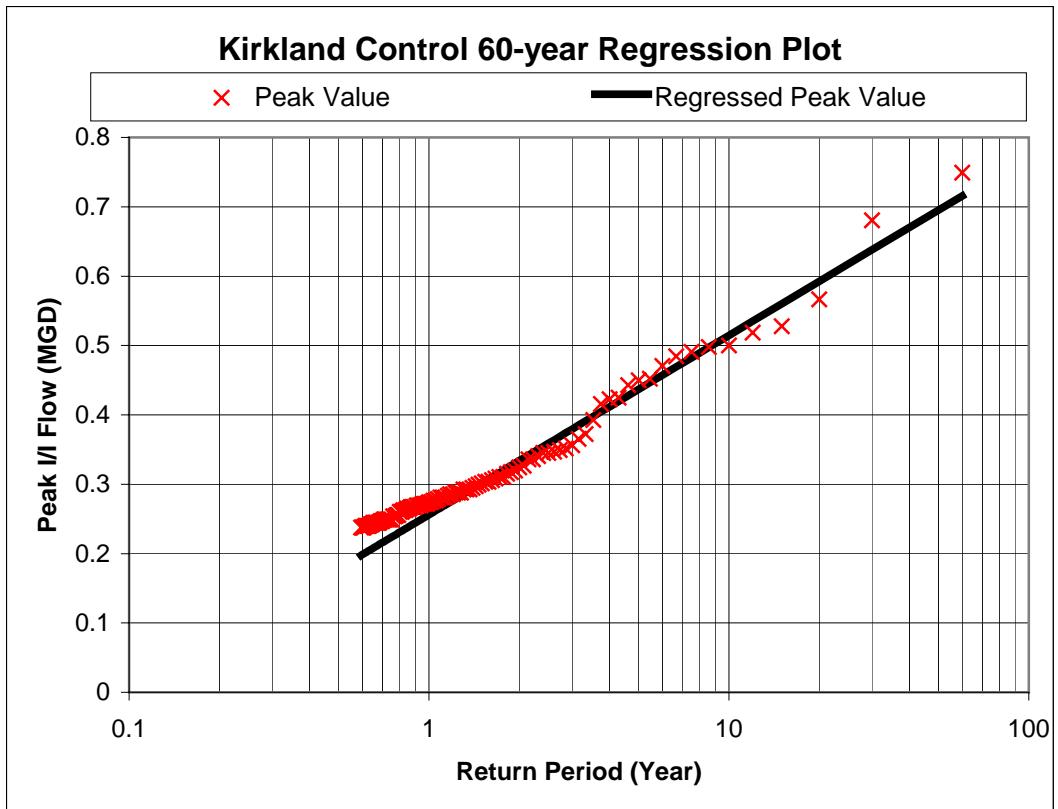
### Auburn Pilot B 60-year Regression Plot

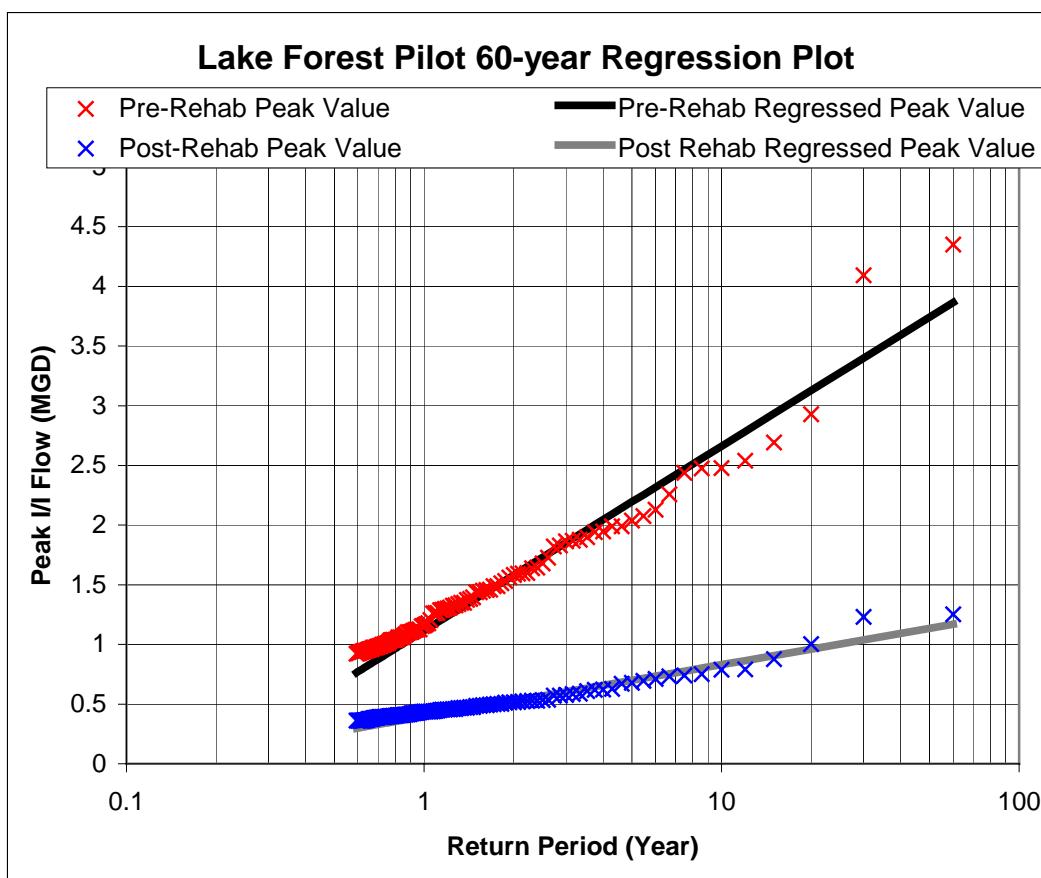
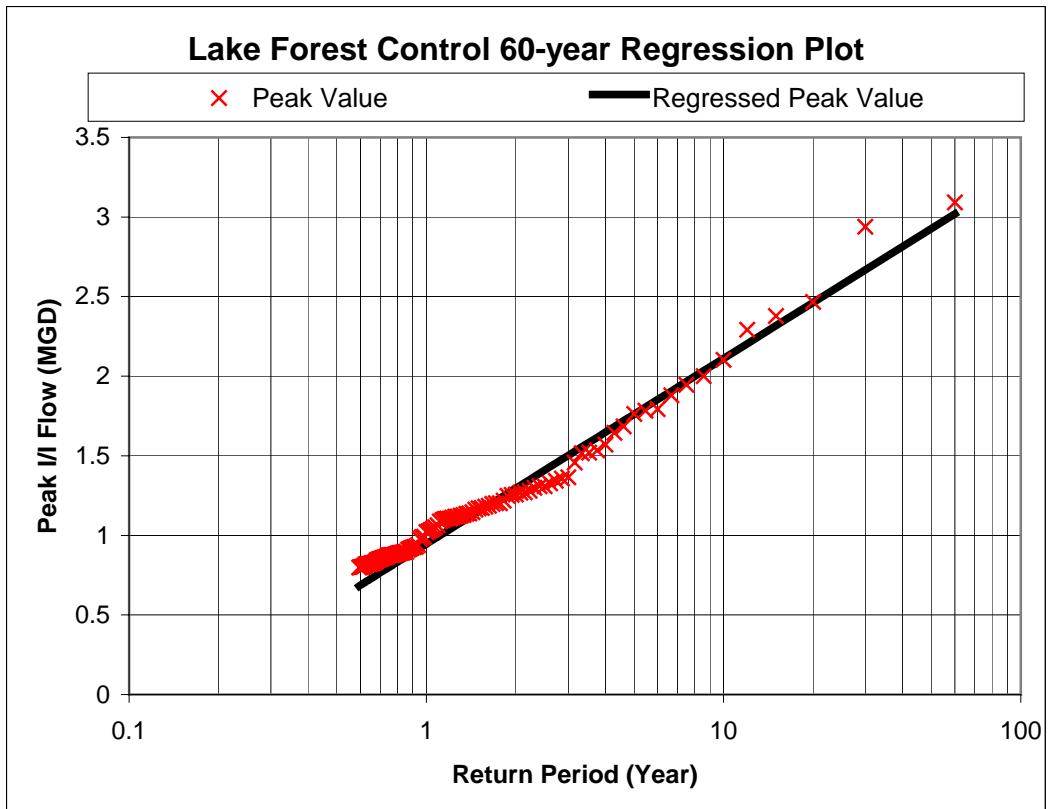


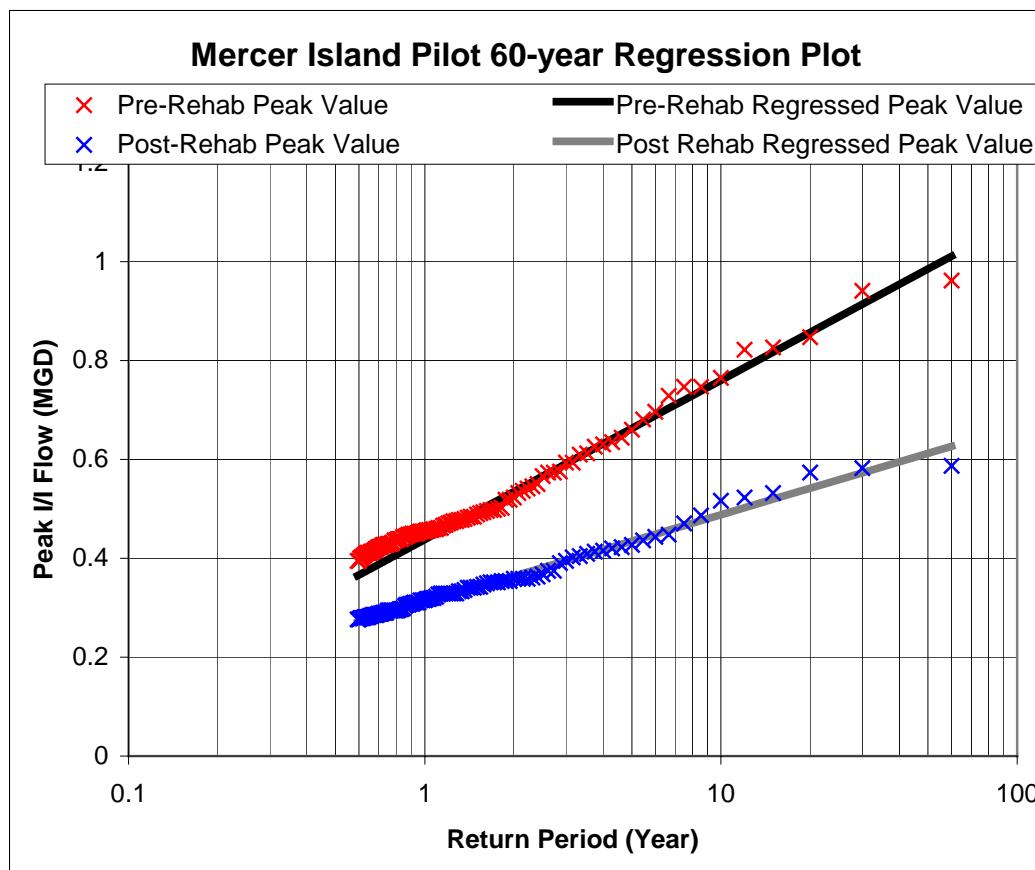
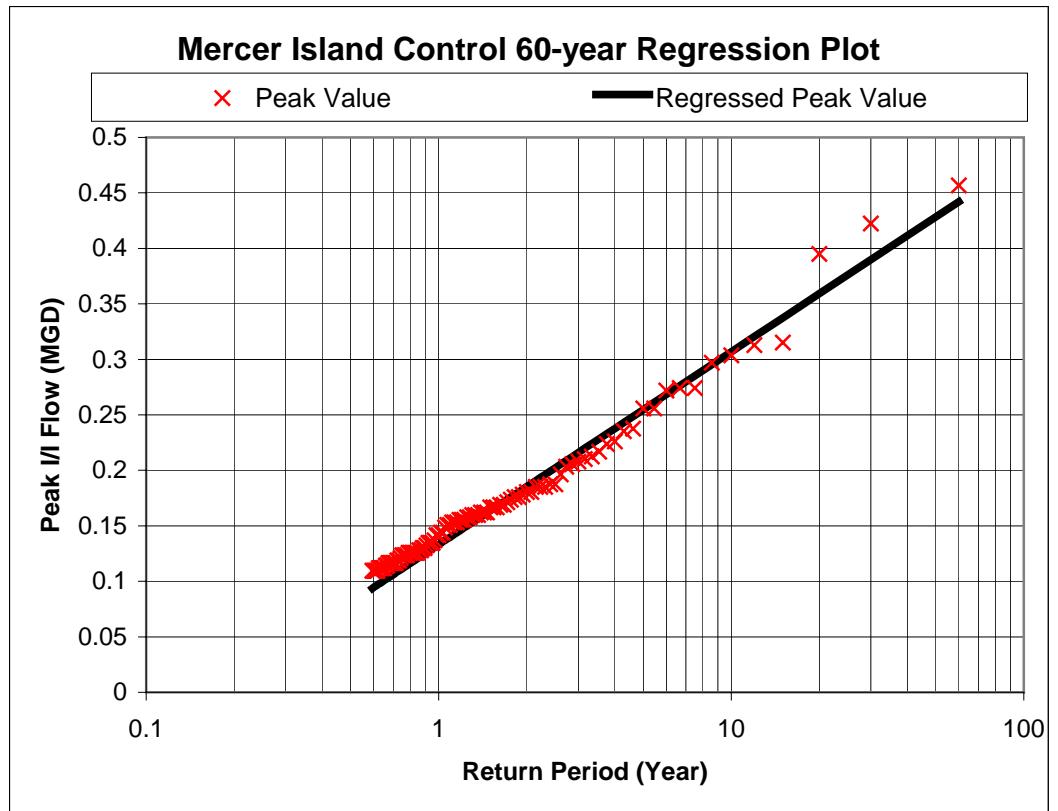


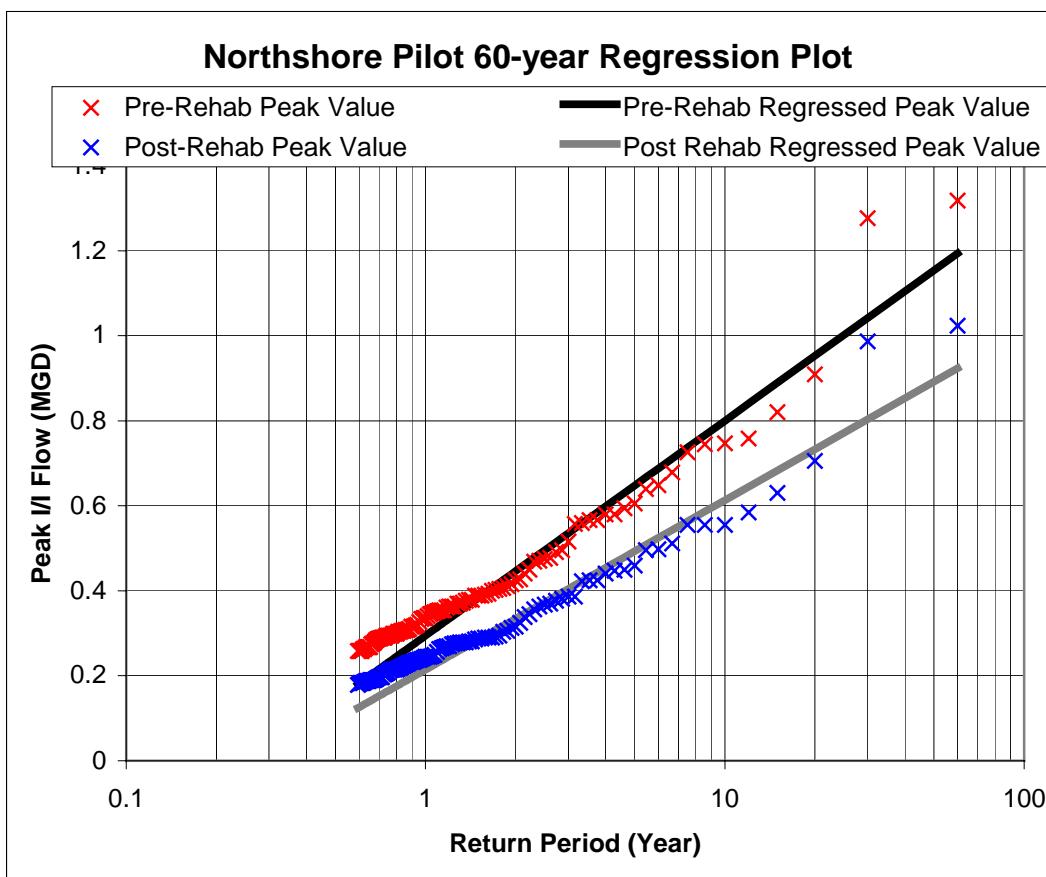
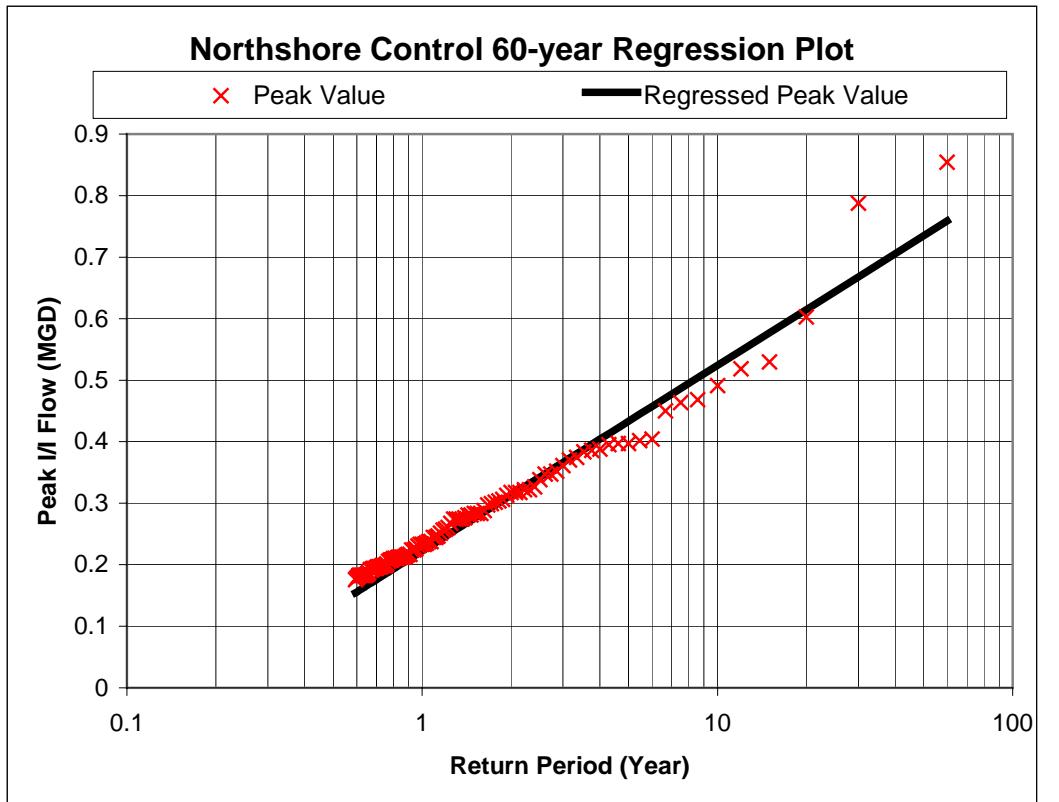


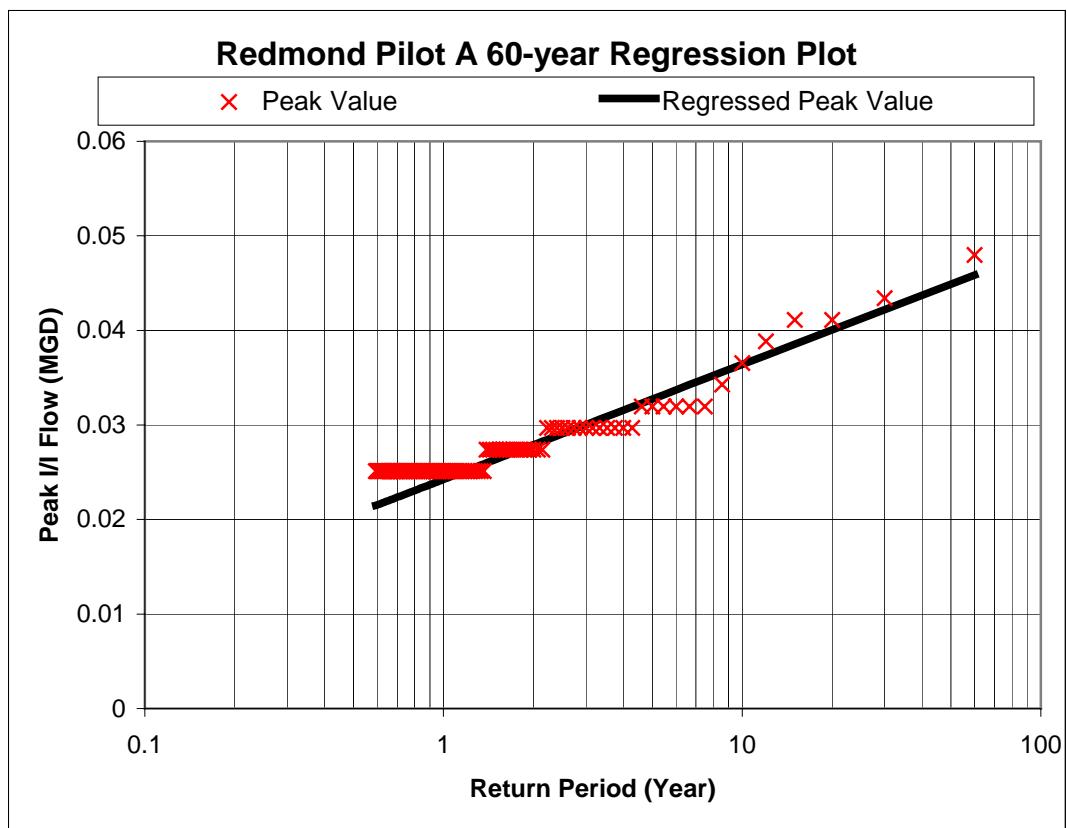
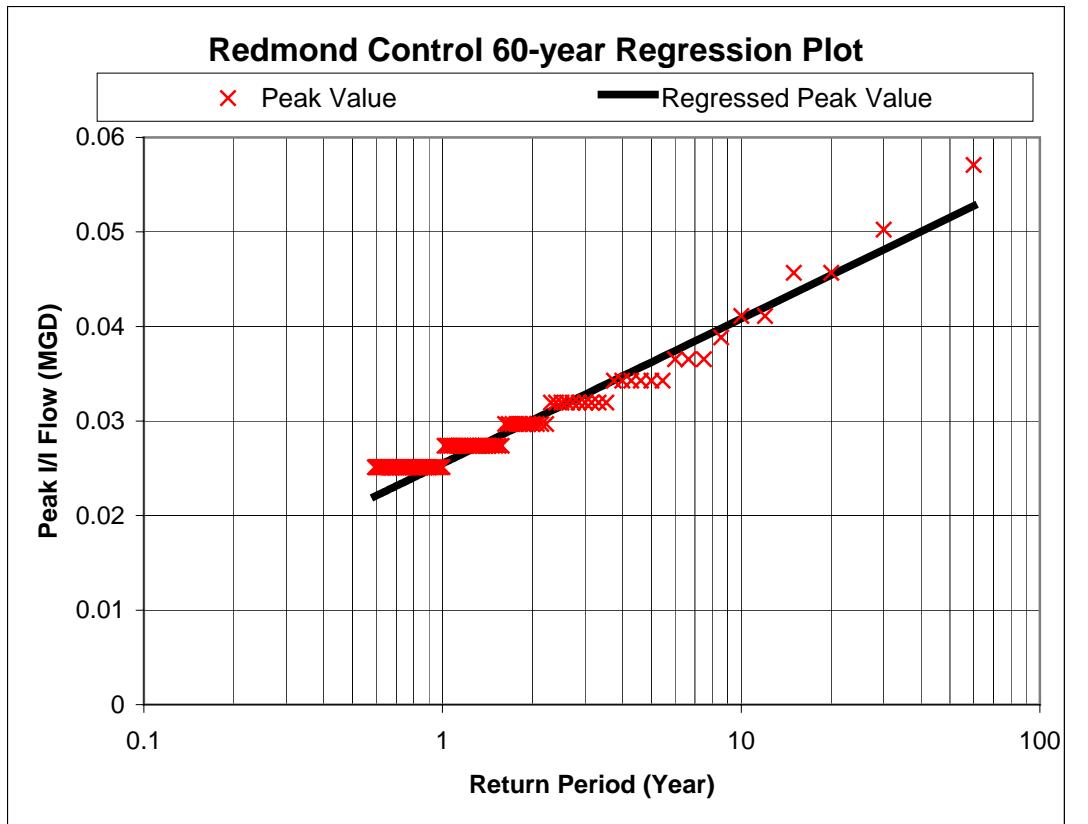




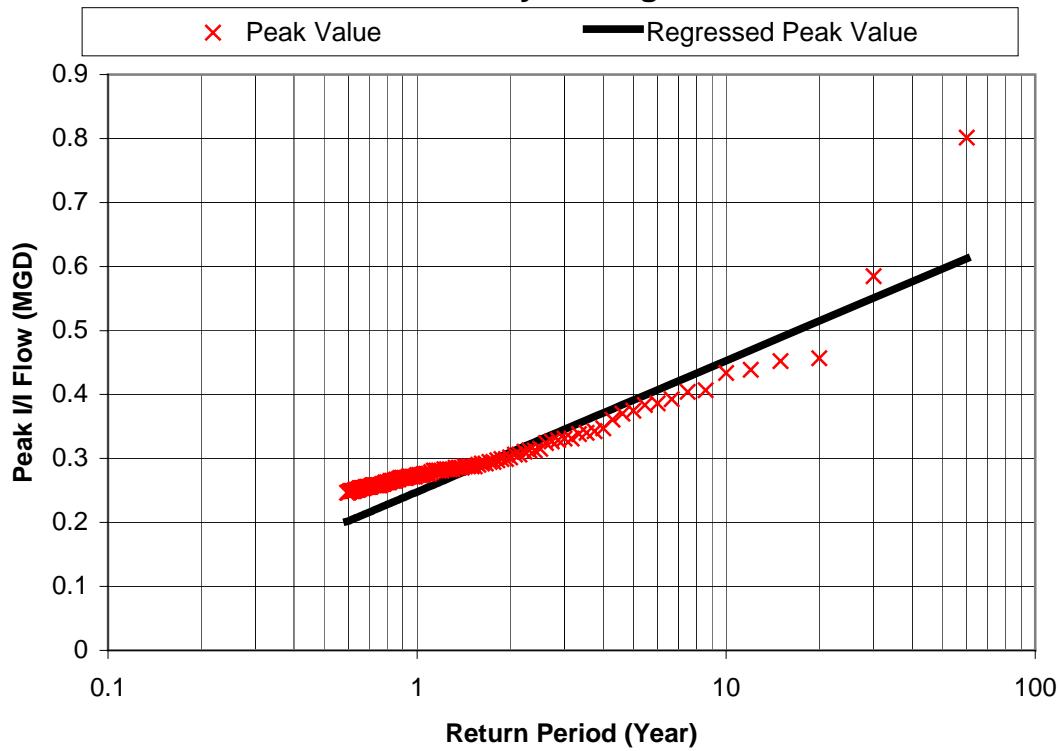








### Redmond Pilot B 60-year Regression Plot



### Ronald Control 60-year Regression Plot

